

# THE MEDICAL JOURNAL OF AUSTRALIA

VOL. I.—13TH YEAR.

SYDNEY: SATURDAY, FEBRUARY 27, 1926.

No. 9.

## Table of Contents

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ORIGINAL ARTICLES—	PAGE.	ABSTRACTS FROM CURRENT MEDICAL LITERATURE—	PAGE.
"Intrauterine Transplantation of the Ovary and its Clinical Significance," by R. B. P. MONSON, M.D., Ch.B., F.R.C.S.E. . . . .	229	Surgery . . . . .	252
"Indications for Cæsarean Section," by H. C. F. DONOVAN, M.B., Ch.M. . . . .	232	<b>BRITISH MEDICAL ASSOCIATION NEWS—</b>	
"Indications for Interference During Labour," by R. N. WAWN, M.B., B.S. . . . .	237	Scientific . . . . .	254
<b>REPORTS OF CASES—</b>		Medico-Political . . . . .	256
"Treatment of Puerperal Insanity," by P. LALOR, M.B., Ch.B. . . . .	247	<b>CORRESPONDENCE—</b>	
<b>REVIEWS—</b>		General Paresis . . . . .	259
Diseases of the Upper Part of the Alimentary Canal . . . . .	247	<b>BIRTHS, MARRIAGES AND DEATHS . . . . .</b>	260
<b>LEADING ARTICLES—</b>		<b>BOOKS RECEIVED . . . . .</b>	260
The Record of Disease . . . . .	249	<b>MEDICAL APPOINTMENTS . . . . .</b>	260
<b>CURRENT COMMENT—</b>		<b>MEDICAL APPOINTMENTS VACANT, ETC. . . . .</b>	260
The Monocytes and Lymphocytes in Tuberculosis . . . . .	250	<b>MEDICAL APPOINTMENTS: IMPORTANT NOTICE . . . . .</b>	260
Scarlet Fever . . . . .	251	<b>DIARY FOR THE MONTH . . . . .</b>	260
		<b>EDITORIAL NOTICES . . . . .</b>	260

### INTRAUTERINE TRANSPLANTATION OF THE OVARY AND ITS CLINICAL SIGNIFICANCE.<sup>1</sup>

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No gynaecologist of experience can fail to have been impressed by the loss caused to the nation through the forced removal of diseased tubes on account of pyo-salpinx or chronic salpingitis. The conservative operation of salpingostomy, hitherto our only alternative, has only a limited application and has unfortunately but seldom been followed by pregnancy. Even in these days all women are not desirous of being childless and in many of the better families the failure to beget an heir frequently causes marital unhappiness.

For some years I have thought it possible that after double salpingectomy it might be feasible to obtain pregnancy by transplanting the ovary into the uterine cavity. With the idea of proving my hypothesis in animals, I consulted the late Professor Hunter as to whether the University would

afford any facilities for the work. Hunter doubted the feasibility of my proposal, as he thought it necessary that the ovum must migrate a certain distance before fertilization could occur, but I pointed out to him that as such migration did not occur in the rare cases of ovarian pregnancy, his objection was answered. Professor Hunter kindly offered me a share of his grant for research and also placed the necessary facilities at my command. This work has been done under the auspices of the Anatomy Department of Sydney University and my thanks are due to the late Professor Hunter in particular and also to Mr. Jamieson who so ably gave the anaesthetics for the operations, to Mr. Harding for his care of the rabbits and to Mr. Bagnall and his assistant in the Histology Department for preparing the microscopic sections.

No. 1 rabbit was operated on by me on March 26, 1924, under ether. The fur was trimmed as closely as possible with scissors at the site of operation and the skin painted with tincture of iodine. Aseptic towels were applied with clips and the abdomen opened by a middle line incision. Both ovaries were removed after ligation of the pedicles and both tubes were ligated with silk near the uterine junction. An incision was made in the

<sup>1</sup>Read at a meeting of the Section of Obstetrics and Gynaecology of the New South Wales Branch of the British Medical Association on September 2, 1925.

tubal end of each uterine cornu and in each case a half ovary was inserted into the uterine cavity and its raw surface stitched by a fine silk ligature to the uterine mucosa. Owing to the smallness of the tube compared with the large diameter of the split ovary, this part of the operation proved very difficult. The incision in the uterus was then closed by the finest interrupted silk ligatures, the peritoneal toilet made and the abdomen closed *secundum artem*. Healing was by first intention and the rabbit was quite undisturbed by the operation. One month after the operation a buck rabbit was placed in the same cage as the operated female for some days.

On April 21, 1924, a similar procedure was carried out on No. 2 rabbit, in which the uterus was very small, and the operation was exceedingly difficult.

On June 20, 1924, No. 1 rabbit showed no signs of pregnancy (in spite of frequent association with the buck) and on repeated vaginal examination there was no sign of oestrous. It was therefore killed and a *post mortem* examination made. There were dense adhesions surrounding the uterus and tubes. On opening these, they were found to be patent right up to the point where the tubes were ligated. The left side showed no trace of ovary, but on the right side at the site of implantation what was thought to be a gangrenous remnant of the ovary was observed, but microscopical examination revealed no trace of ovarian tissue, only blood clot. The uterus was somewhat pale and flabby and it seemed longer than at the operation and was surrounded by a deposit of fat.

On July 2, 1924, No. 3 rabbit was treated in a similar manner.

On July 9, Nos. 4 and 5 rabbits were likewise treated.

In the case of No. 4 the same operation as before was performed, but in that of No. 5 it was varied. Here the right side was done as before, but on the left side the whole left ovary with its vascular pedicle intact was transplanted into the left uterine cornu. In doing this a small opening was made in the tubal end of the cornu as before and the anterior pole of the ovary was transfixed by a fine silk ligature and a fine, round-pointed needle which was inserted into the uterus and then brought out through the uterine wall one centimetre distal to the incision. The needle was then placed on the other end of the thread and brought out as before close to the other end of the thread. By this means the ovary which tended to slip out of the uterine cavity, was tied in its place. The incision in the uterus was then closed over the pedicle and ovary, care being taken not to interfere with the vascular pedicle and thus cut off the blood supply. The tube was, of course, ligated as before with silk close to the uterus.

On July 23 No. 6 rabbit was treated. At the operation on the right side the uterus was mutilated and the ovary was then removed, the uterus repaired and the tube ligated. On the left side, however, it was done very successfully and I was pleased with

the result. The whole ovary with its blood supply was transplanted as in No. 5. So far the rabbits had all been kept in separate cages in a shed and were alternately associated with the buck. They did not thrive well during the winter and several of them developed a skin complaint characterized by shedding of the fur and ulceration of the skin. In October they were all placed together in the yard in a common hutch with a wire-netting run and the exposure to sunlight immediately made a great difference in their condition, so that their skin troubles disappeared, their fur became glossy and they put on weight. On October 17 a buck was placed permanently with them.

By November 17 No. 3 rabbit had increased in weight a great deal and had become stout about the lower part of the abdomen, but as no evidence of any preparation for lactation was present and no definite enlargement in the pelvis could be palpated, it was killed on November 26. On *post mortem* examination the rabbit was found to be very fat, there being thick deposits of fat in the abdominal wall and around all the viscera, but it was particularly noticeable surrounding the uterine cornua. On dissecting out the uterus it was seen to be of a pale yellow colour in contrast to the reddish blue colour seen at operation and it was very flabby and had completely lost its elasticity. Most remarkable of all, however, was the great elongation and cylindrical shape of the uterus which was at least twice the normal length. On opening up the uterus there was no sign of the ovary, either microscopically or macroscopically.

On February 5, 1925, No. 2 rabbit was killed and again the remarkable naked eye changes seen in the previous animal were present, but if anything the elongation of the uterus was even greater. Again no trace of ovary could be found.

As there were no signs of pregnancy in any of the remaining rabbits and as only one, No. 6, showed any change in the vagina even suspicious of the oestrous cycle, they were all killed on February 26, 1925.

On *post mortem* examination it was noticed that there were fewer adhesions in No. 4 rabbit than in the others, but there was a peculiar multicystic condition of the right uterine cornu in the region where the ovary had been transplanted; I cannot explain this. Neither uterine cornu contained any ovarian tissue. The pale, flaccid, much elongated uterus was present as in the other rabbits, as usual surrounded by fat.

In No. 5 rabbit no trace of ovary was found, although in this animal the whole left ovary with its vascular pedicle had been transplanted. The pedicle could be traced up to the uterine wall, but apparently the ligatures must have interfered with the blood supply or else the ovarian artery had become thrombosed, as the ovary must have become gangrenous and have been absorbed or discharged *per vaginam*; no trace of it was present on microscopical examination. The fatty deposit and

changes in the uterus, previously described, were again evident.

No. 6 rabbit on being opened up presented comparatively few adhesions compared with the other rabbits. The vascular pedicle was traced up to a practically normal left uterine cornu and on palpation the ovary could be at once felt. The uterus in contradistinction to that of the other animals, was of a natural shape, colour and size, while there was less fatty deposit surrounding the organ. On opening up the uterus the ovary was plainly visible, established in its new site, but no Graafian follicles were seen on its surface.

**Microscopical Appearances In and Conclusions Drawn from the Experimental Transposition of the Ovary in the Rabbit.**

The rabbit is really too small an animal in which to attempt this operation, as the uterine cornu are small in diameter and the uterine wall is thin, making the operation difficult to perform; moreover the animals seem peculiarly prone to the formation of postoperative adhesions. The rabbit was originally chosen on account of its fecundity and because it is easily obtained and kept.

The ovary cannot be successfully transplanted into the uterus, as it can in other situations, unless its blood supply is intact. Even in the first rabbit no trace of either ovary could be found three months later.

The complete disappearance of both ovaries after transplantation is followed by definite changes in the uterus. These changes seem to be an exaggeration of those described after double oophorectomy in the rabbit by Fränkel and in the opossum by Hartman, of the Department of Zoology in the University of Texas. They are both macroscopic and microscopic.

The uterus becomes cylindrical in shape and remarkably elongated even to twice its normal length; its colour changes to a pale yellow; the whole organ becomes perfectly flaccid; dense deposits of fat are found surrounding the organ.

Microscopically it was found that there is atrophy and in some cases almost complete disappearance of the glandular elements of the mucosa which becomes densely infiltrated with round cells. The lymph-vascular spaces of the middle layer of the mucosa are collapsed and empty. In the muscular layer there is degeneration and in places even disintegration of the muscle fibres which are also infiltrated with round cells. These changes confirm those found by Hartman in his recent work on the opossum. Finally, surrounding the uterine serosa is a dense layer of areolar-fatty tissue. I offer as an explanation of this the use of silk ligatures which act as a foreign body and produce a deposit of fat analogous to that found in some cases of renal calculus.

The ovary with its blood supply intact can be transplanted successfully into the cavity of the uterus, as shown by the case of No. 6 rabbit which was killed seven months after operation. Microscopically the ovary is seen to be growing in the

uterine mucosa, but it is in a state of delayed activity, as evidenced by the absence of Graafian follicles, but there are clusters of primordial cells and here and there primitive young follicles. There is some atrophy of glandular elements of the uterus and slight round cell infiltration. For some time the vagina of each rabbit was examined twice a week for signs of oestrous, but the last rabbit was the only one to show any vaginal changes and those were not typical of the oestrous cycle which up to the time of its death apparently had not become reestablished.

**Clinical Significance of Intrauterine Transplantation of the Ovary.**

Unfortunately we were forestalled in demonstrating the clinical value of this procedure, as while we were contemplating further investigation in the pig, Tuffier published his paper. During the time I was conducting these experiments, I had only one suitable patient on whom I could try this operation and as I had not then satisfied myself that it was feasible in animals, I did not feel justified in attempting it in the human being.

Tuffier published his paper in *Surgery, Gynecology and Obstetrics* in October, 1924. Briefly his technique is as follows. He first dilates the cervical canal with tents for twelve hours prior to operation and then he opens the posterior wall of the uterus to one side or the other of the mid-line, according to which ovary is healthy. The tube is removed with particular care even to the interstitial portion. After he has made sure that the ovarian artery is active, the ovary (part of which may be resected first, if necessary) is sutured into the uterine cavity, so that one-third of it projects into the uterus. The ovary is fixed by ligatures to the muscular wall and the peritoneum carefully sutured over it so as not to injure the vascular pedicle.

Personally I think it would be preferable to put the ovary into the uterine cornu, as Estes does. The results of this brilliant piece of gynecological surgery have just been published by H. Hartmann in *Gynecology and Obstetrics* (1925, XI-L., p. 38). He says:

No mortality has been recorded and in all cases both Fallopian tubes had been removed. Of Tuffier's 29 cases all continued to menstruate in from two to six months and one subsequently gave birth to a living child at term. Estes reports 27 cases of which all save one continued to menstruate, two became pregnant, but aborted at the third month and four carried two pregnancies to a successful termination. The operation is one which is justifiable, ensures persistence of menstruation and may permit conception and parturition. In one of Tuffier's cases ovulation was demonstrated in the uterine transplant of ovary after its removal at a subsequent operation.

This paper has been read tonight in order to draw the attention of Australian gynecologists to this new operation. I desire to recommend it for their due consideration. Personally I intend to perform it in the future in all suitable cases, namely when double salpingectomy is unavoidable in patients who desire to retain the possibility of childbearing.



INDICATIONS FOR CÆSAREAN SECTION.<sup>1</sup>

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CÆSAREAN SECTION when performed *post mortem* is a very ancient operation. The *Rex Legia* of Numia Pompilius of B.C. 715 commanded its performance and instances of its performance occur in the folklore of many European races. Roman children delivered by its means were called *Cæsones*.

Performed on the living the operation is of more recent origin, the first accepted case being by Trautman in 1610. Felkin saw a Cæsarean section on a living woman successfully performed by a native in Uganda in 1879 and it had evidently been performed there for centuries. During the seventeenth and early eighteenth centuries it was occasionally performed, but had an appalling death rate. It was first established as a reasonable operation by Sænger about 1882. With improvements in anaesthesia, asepsis and technique it has gradually increased in popularity until today the danger lies in its unnecessary employment as the easiest way out of a difficulty and true obstetric art and technique are in danger of being neglected. Under modern technique and with proper hospital conditions it becomes a comparatively simple operation, while still retaining a rather dramatic appearance; it is in its comparative simplicity and dramatic appearance that there lurks the temptation for its over employment. There are in the land many more surgeons capable of performing a Cæsarean section without killing the patient than there are skilled accoucheurs capable of deciding that in it lies the best form of treatment for the complication that is presented for treatment. The decision to employ it demands the highest diagnostic ability and judgement and implies the weighing of many considerations. The operative risk is greatly influenced by the presence or absence of suitable hospital facilities, by the extent to which labour has progressed and above all by the number and variety of examinations and manipulations to which the patient has been exposed during labour. The employment of the operation to the best advantage implies thorough and skilled antenatal examination and care. If antenatal examination were always thorough, nearly all the patients requiring this operation would be discovered at this stage, the decision would be made calmly in the absence of emergency and the operation would be performed under the most favourable conditions.

Under such ideal conditions the operative mortality should be very low, but in deciding upon operation the risk of rupture of the uterus at a subsequent labour must be considered. It is difficult to obtain accurate statistics as to the extent of this risk partly because many considered that "once a Cæsarean, always a Cæsarean" and the operation is

frequently performed at a subsequent pregnancy at calculated term. However, the risk is very real and I have heard of several patients who have experienced this calamity in the past few years in Sydney. I do not know to what extent this risk depends on the method of suture or the suture material employed.

A circumstance that has to be taken into consideration in deciding for or against Cæsarean section is the age of the patient and the possibility or otherwise of more favourable pregnancy at a future date.

Some of the more important indications for the performance of Cæsarean section are set out below.

#### Disproportion Between the Size of the Passenger and that of the Passages.

##### *Contracted Pelvis.*

At the antenatal clinic of a hospital or during the prematernity examination of a private patient the presence of this should be discovered. External pelvimetry should be performed in all *primiparae* and in *multiparae* whose history contains records of previous difficulty in labour. The usual measurements taken are the interspinous, twenty-six centimetres, the intercrystal, twenty-nine centimetres and the external conjugate, twenty centimetres. Other measurements are sometimes advocated, such as the bitrochanteric, the circumference of the pelvis, the distances between the ischial tuberosities and the posterior superior iliac spines on each side. Of these measurements the important points are the relation between the interspinous and the intercrystal and the actual external conjugate measurement. There should be more than 1.25 centimetres (half an inch) difference between the first two and the external conjugate should be more than 17.5 centimetres (seven inches).

I do not propose to deal with the classification of the varieties of contracted pelvis as it is largely academic and the question to be considered is the probability of the birth of a living undamaged child without undue trauma to the mother. The main function of routine external pelvimetry is to bring the existence of definite contraction under notice. This examination should be made at about the thirtieth week of gestation and at it in addition to a general examination of the heart, lungs and other organs of the patient and the taking of the external measurements, there are many suggestive points that may be noted. Thus a limp, a short leg or curvature of the spine is suggestive of the presence of a laterally distorted pelvis; small stature is suggestive of general contraction; distinct lordosis is suggestive of spondylo-lithetic or flattened pelvis; diminished distance between the last ribs and the iliac crests is suggestive of the same condition; a large protruberant abdomen is suggestive of some form of pelvic contraction or of hydramnios.

At this examination it should be determined whether the presentation is cephalic. When there is a transverse or breech presentation in the case of a *primipara* external version should be performed

<sup>1</sup> Read at a meeting of the Section of Obstetrics and Gynaecology of the New South Wales Branch of the British Medical Association on September 2, 1925.



to bring the head over the pelvic inlet. When the presentation is cephalic, it should be ascertained whether or not the head can be engaged in the pelvis. If it can be engaged, all is well at the inlet. It is possible, however, that there exists lateral contraction of the pelvis which will cause difficulty in the pelvic channel or at the outlet. This can be anticipated by the distance between the ischial tuberosities, but can only be ascertained by vaginal examination or by internal pelvimetry. By vaginal examination the lateral diameters of the pelvis can be demonstrated by separation of the two examining fingers; in this way also the obstetrician can determine whether or not the promontory of the sacrum can be felt. If it can be easily felt, there is contraction in the antero-posterior diameter.

Internal pelvimetry is frequently inaccurate, requires an anæsthetic and it is difficult, especially in the case of a *primipara*, to insert the half hand sufficiently far to reach the promontory. The most important measurements in internal pelvimetry are the true conjugate, ten to eleven centimetres, the lateral diameter in mid pelvis, twelve centimetres, and the internal distance between the ischia, eleven centimetres.

But after all the foetal head cannot be accurately measured and it is the relation of it to the pelvis that is important. Measurement by X rays is not yet accurate and the foetal head remains the best pelvimeter. It can be used as a pelvimeter in several ways. By grasping it and pressing it into the pelvis it can be ascertained whether it can be made to engage; by placing two fingers in the vagina and the thumb of the same hand on the front of the pubis and applying pressure on the fundus the amount of descent of the head can be determined and if the head is pressed down on by an assistant and the examiner's other hand placed on the head above the pubis, while the two fingers in the vagina are passed up along the posterior surface of the *symphysis pubis*, the amount of overlapping, if it exists, can be ascertained. In doubtful cases an anæsthetic may be required. If doubt exists, this examination should be repeated every week or fortnight until term. In cases in which doubt still exists and these border-line cases will be proportionally numerous, a trial labour under rigid conditions of asepsis should be allowed. For these examinations to be of value the head must be in the occipito-anterior position; consequently transverse and breech presentations must be corrected by external version and occipito-posterior presentations must be converted by means of the application of pads and binder. Another factor that cannot be accurately determined without a trial of labour is the capacity of the head to become moulded into the pelvis.

To sum up, a general examination should be made at about the thirtieth week and external pelvimetry performed in *primiparae* or *multiparae* with a history of difficult labour. After a faulty presentation has been converted into one with an occipito-anterior position it should be ascertained whether the head

can be made to engage. In cases of doubt a vaginal examination, with an anæsthetic if necessary, should be made as previously described and perhaps internal pelvimetry. If there is still doubt, the examination should be repeated in one or two weeks. Finally, so many of the factors that we are endeavouring to estimate are incapable of mathematical determination that we are still compelled in border-line cases to submit the patient to a trial labour. It is our duty to do so in cases of doubt, even if it compels us to operate at a time inconvenient to us. External pelvimetry is but a rough guide. Internal is difficult and not very reliable. The size of the foetal head can be only roughly estimated even by experienced practitioners, the powers of the uterus, the consistence of the foetal head and its capacity to become moulded can be ascertained only by a trial of labour; consequently in all but the grosser degrees of contraction we must fall back on our experience and trained judgement to determine the proportion between the size of the passenger and that of the passages and on a trial labour in all doubtful cases in order to ascertain the powers of the uterus and the capacity of the foetal head to mould.

Twelve hours should be sufficient in most cases to determine the above factors and if the labour up to this point has been conducted with the most scrupulous aseptic care, this short labour, far from being harmful, will have partially dilated the cervix and will aid in postoperative drainage of the lochia.

Exostoses should be detected by the vaginal examination and section performed at calculated term or after a trial labour according to the degree of the deformity.

In arriving at a decision to perform Cæsarean section the other possible methods of treatment have to be considered. High forceps operation is a difficult and dangerous treatment resulting usually in severe trauma to the woman, with grave risks of hæmorrhage and sepsis and the almost certainty of crippling displacements of uterus, bladder, rectum and vagina and the probability of stillbirth or neonatal death of the foetus. Induction of labour is essentially an English operation and has scarcely any vogue in other countries. While admitting its value in certain other conditions, I consider its use in cases of disproportion to be very limited. In deciding between it and Cæsarean section the degree of disproportion and the time when the patient is first seen are factors of importance. If seen early the date when the first difficulty arises in causing the head to engage should decide the date of induction. If this is when the child is not or only doubtfully viable there is a positive indication for Cæsarean section at term. In other cases it must be remembered that induction is often a slow and disappointing procedure and increases the risk of sepsis. I feel that, given suitable hospital conditions and the services of an experienced surgeon, Cæsarean section is the safer procedure for both woman and child when a careful examination

reveals that the birth of a living child *per vias naturales* is unlikely. In country districts and if surroundings are not suitable, induction is the best treatment. For women with a history of post-maturity at previous labours induction at the calculated term is the ideal treatment. Perforation and mutilation of the foetus should usually be out of place if the child is alive, but is the best treatment except in extreme degrees of contraction if the child is known to be dead, in hydrocephalus or if the foetus is acephalic or has some condition incompatible with life. In extreme degrees of contraction perforation and extraction are too difficult and dangerous and Cæsarean section becomes essential even if the child is dead. Symphysiotomy appears to have a field of usefulness. I have never employed it and would be glad to hear the results of those who have. From the literature the risk of difficulty of ambulation does not appear to be great. My feeling is that it is not the operation of choice, as it only gives an extra 1.25 centimetres (half inch) and it is a refinement of diagnosis beyond the reach of most to say with certainty that the gain of this amount in a given case will enable a living child to be born. In potentially infected women seen in an emergency after unsuccessful attempts at delivery by forceps, when the membranes have been ruptured for some time and the passages injured, it appears to be a very useful operation.

While with proper antenatal care disproportion should be discovered during pregnancy, there are still many cases in which the condition has been missed and is discovered late, frequently after ineffectual attempts at delivery by forceps. The bad results in these infected women raise the death rate of the operation. In these cases variations of the classical operation have been employed. Vaginal Cæsarean gives insufficient space; the low extra-peritoneal operation is shown by statistics not to diminish the risk of sepsis and opens up a large area of cellular tissue to the risk of infection; the low transperitoneal method, if performed late in labour, brings the scar into the thinned out lower uterine segment and does not permit of good healing and does not appear to possess any compensating advantages. I consider a high scar in the uterus an advantage. If there is great risk of infection, Cæsaro-hysterectomy has to be considered. If hysterectomy is not performed the risk of sepsis is diminished in this class of case by packing the uterus off from the peritoneum and by delivering the placenta and membranes by expression through the vagina, as the chief risk is from the liquor and the ragged ends of membrane that have been hanging into or through the cervix.

#### Fibroids.

Submucous fibroids usually cause early abortion. Interstitial fibroids also frequently cause abortion and if pregnancy goes on to term, they only cause dystocia if they extend into or toward the cervical region or if by their position they alter the angle of the uterus to the vagina. A point to be con-

sidered in connexion with interstitial fibroids of the body of the uterus is that they tend to splint the uterus mechanically after delivery of the child and thus by hindering retraction, cause persistent *post partum* hæmorrhage. If Cæsarean is performed for any reason in these cases, it is wise to follow it by hysterectomy. The subperitoneal variety can cause mechanical trouble only if they are pedunculated and fall into the true pelvis behind the uterus. In considering the advisability of performing Cæsarean section for fibroids, each case must be considered on its merits. In the case of cervical fibroids the indication is usually absolute and in the case of prolapsed subperitoneal fibroids an attempt should be made with the employment of anæsthesia if necessary, to push the tumour out of the pelvis. If this fails, Cæsarean section is usually necessary. If the tumour of either variety is small, the head should be used as a pelvimeter as previously described and if doubt exists the patient should be given a trial labour, during which the fibroid will sometimes rise out of the true pelvis and cease to be an obstruction.

#### Tumours of the Ovary, Rectum and Vagina.

If a tumour of the ovary, rectum or vagina encroach on the pelvic space the indications are exactly as in the case of fibroids. As in the case of a fibroid with a long stalk, so in the case of ovarian tumours an attempt should be made to push it out of the pelvis. In the other cases the head should be used as a pelvimeter and if indicated a trial labour should be given. A special case is that of cysts of the vaginal wall. If the patient is seen early in pregnancy, it may be surgically removed. The same may be said of stalked fibroma of the vaginal wall, which can often be delivered outside the vulva and thus allowing room for the passage of the child. This has happened on several occasions in my experience.

#### Malignant Disease of the Cervix.

The delivery of a child through a cancerous cervix will according to Tweedy always kill the woman from hæmorrhage or sepsis. Excellent rules for the treatment of cancer and pregnancy are those of Berkeley and Bonney.

- (i.) Cancer operable and child not viable—radical operation.
- (ii.) Cancer operable and child viable—Cæsarean section followed by radical operation.
- (iii.) Cancer inoperable and child not viable—empty the uterus and apply radium if discovered before the third month of pregnancy; if not seen until after the third month, pregnancy to be allowed to continue.
- (iv.) Cancer inoperable and child viable—Cæsarean section followed by subtotal hysterectomy to minimize the risk of sepsis.

#### Stenosis of the Cervix.

In the event of stenosis of the cervix as the result of scar tissue following the application of strong caustic agents, the healing of a chancre, badly performed surgical operations and so forth, the choice of treatment lies between section of the

cervix and abdominal Cæsarean section. I have never seen such a case, but if faced with one would prefer Cæsarean section as I would fear hæmorrhage from the wound in the cervix and its probable extension to unforeseen limits by the passage of the head.

#### Eclampsia.

Eclampsia is frequently regarded as an indication for Cæsarean section, but, in my opinion, without justification. When eclampsia was considered to be caused by the absorption of toxic substances from the contents of the uterus there was theoretical justification for *accouchement forcé*, Bossi's dilator or Cæsarean section. The death rate after this form of treatment was and is very high. Whether we regard the circulating toxin as hepatic or intestinal in origin due to aseptic tissue death of infarcted placental area, as anaphylactic or as due to perversion of the endocrine function, clinical evidence shows the advantage of treatment on similar lines to those advocated by Stroganoff and Tweedy. Fits do persist after delivery; Cæsarean section does nothing to cure the disease and anaesthesia is certainly bad for these patients, probably by increasing the acidosis already present. I am of the firm opinion and in this I am supported by statistics that the treatment of eclampsia is not surgical and that Cæsarean section is never indicated, unless some other condition is present which renders it necessary.

#### Placenta Prævia.

In *placenta prævia* I consider that Cæsarean section forms the best line of treatment in only a small percentage of cases. In the marginal variety it is never necessary; in the lateral vaginal plugging alone or followed by forceps, bag and forceps, bipolar version or what is usually preferable, external version, and the bringing down of a leg form far better treatment. In the central variety the prognosis for the child is bad in any event and its extra chance of life can scarcely be pleaded in favour of Cæsarean section. It is usually premature when treatment becomes necessary and figures given by Professor McKerron, of Aberdeen, at a meeting of the Edinburgh Obstetrical Society early this year showed the foetal mortality in *placenta prævia* treated by Cæsarean section to be 30%. The indications for Cæsarean section in this condition I take to be severe or repeated hæmorrhage with little or no dilatation or taking up of the cervix, especially in the case of a *primipara*. Another indication might be when the complication occurs in an elderly *primipara* with little prospect of another pregnancy if the child is alive and viable. In this case the operation should be done very early.

#### Accidental Hæmorrhage.

Accidental hæmorrhage can as a rule be best treated by firm plugging of the vagina with small swabs according to the method described by Tweedy. This applies to both the revealed and the concealed forms. But there are cases in which

the hæmorrhage completely infiltrates the wall of the uterus and is accompanied by intraperitoneal hæmorrhage. In these circumstances Cæsarean followed by removal of the uterus is the best treatment, but the condition is difficult to diagnose. If the symptoms are severe from the onset and if no improvement follows proper packing, the hæmorrhage is probably of this type and the patient should be submitted to operation.

#### Heart Disease.

If there is failure of compensation actually present or if failure of compensation has occurred at a previous pregnancy, Cæsarean section is indicated. If compensation is beginning to fail, the patient should be treated by absolute rest in bed; digitalis should be given. If the patient does not improve, Cæsarean should be performed. A factor to be considered is the probable length and severity of the labour. Thus a *multipara* is more likely to survive labour than a *primipara*. Labour is more dangerous in aortic disease and in mitral stenosis than in mitral regurgitation, but the condition of the heart muscle is all important. If failure of compensation occurs early in pregnancy, the pregnancy should be terminated; if midway in pregnancy the pregnancy should, if possible, be continued until the foetus has attained a viable age and Cæsarean section performed. If the failure occurs late, Cæsarean section is the best treatment. In cases in which failure is only threatening, the woman may be given the test of labour. In such cases the second stage should be shortened by the use of forceps as soon as there is full dilatation. I cannot see the grounds on which induction of labour is advocated as the treatment of bad heart disease late in pregnancy. It is often a slow process and my experience is that it does very little to reduce the strain of labour on the heart muscle as it is impossible to predict its length or severity. These women bear anaesthesia remarkably well and I have operated on one with aortic disease who was completely orthopneic in whom the pulse and respiration improved from the moment the uterus was emptied. This particular patient appeared to present an appalling anaesthetic risk and would have certainly died in labour.

#### Exophthalmic Goitre.

Much the same reasoning and indications apply in exophthalmic goitre as in diseases of the heart, but there is an added toxic element. The patients do not tolerate the anaesthesia well, but stand the strain of labour still less well. The only two patients for whom I have performed Cæsarean section on account of this condition, in both it was very severe, stood the anaesthesia very well. As showing the effect of labour in this condition the pulse rate of one of these patients rose twenty beats in the first two hours of labour. I look upon exophthalmic goitre in late pregnancy as a positive indication for Cæsarean section. The time at which it should be performed depends on the result of absolute rest in bed. If the patient improves, operation should



be postponed to near calculated term in order to increase the chances of the child.

#### Chronic Nephritis.

Chronic nephritis is sometimes regarded as an indication for Cæsarean section, but to my mind it forms an indication only if the condition of the heart would render the strain of labour dangerous. Chronic nephritis often causes the death of the fœtus during the last month of pregnancy and I have had several cases of live birth as the result of induction in these cases.

#### Septic Conditions of the Genital Region.

Septic conditions of the genital region may be of many kinds, carcinoma, chancre or chronic gonorrhœa of the cervix, gonorrhœal or purulent vaginitis, suppurative bartholinitis, recto-vaginal fistula, condylomata, gonorrhœal warts, impetigo or chronic dermatitis from scratching in dirty patients, thread-worms or pruritus, ischio-rectal abscess or sinus and many other conditions. Many of these conditions may be rendered comparatively harmless if seen sufficiently early in pregnancy and their danger is also to some extent determined by the length of time that they have existed. If they, especially the gonorrhœal lesions, have been present for a long time, the resistance of the patient is considerable. It must be remembered that Cæsarean section does not prevent infection extending from below, as the lochia acts as an excellent culture medium and in cases of purulent vaginitis the protective secretion of the vagina has been destroyed. On the other hand Cæsarean section eliminates one of the greatest factors in the causation of sepsis, namely trauma of the passages.

I do not regard gonorrhœa as an indication as the majority of these patients do well, but look on moist gonorrhœal warts and other discharging lesions near the vulva as conditions for which operation must be seriously considered, as women do not so readily develop immunity to staphylococci or streptococci.

#### Uterine Inertia.

It is only very exceptionally that inertia forms an indication for Cæsarean section. The great majority require rest and time and the application of forceps when dilatation is complete, but when there is a combination of partially obstructed labour and failure in the normal powers and the signs of maternal or fœtal distress develop while the cervix is insufficiently dilated, there is no option; Cæsarean section is indicated. Such conditions, however, are comparatively rare.

#### Breech Presentations in Primiparæ.

In mentioning breech presentations in *primiparæ* as a possible indication for operation I realize that I am inviting severe criticism, but I am convinced that under certain circumstances it becomes the correct treatment. If the vagina is long and narrow the fetal death rate is very high and I have seen so many cases of crippling injury to the maternal passages inflicted in the attempt to secure

a living child that I feel that Cæsarean section is preferable. Again in the case of a frank breech impacted under the same conditions, I feel that Cæsarean section would be better for the woman than the great amount of trauma usually inflicted. External version in spite of the risk of prolapse of the cord is the best treatment, but it is difficult during the last few weeks and it is impossible if labour is advanced.

#### Post Mortem Cæsarean Section.

The possibility of operating after death should be remembered, but the cases in which it is indicated, are very rare. In cases of death from dystocia the child will usually be dead, as also in death from *ante partum hæmorrhage*. The cases in which there is most prospect of success are those in which death has occurred from sudden heart failure or in the early stages of eclampsia. Considerable time would inevitably be taken to verify the fact of death and in the case of eclampsia, death at an early stage would probably be due to asphyxia and prolonged artificial respiration would be indicated.

#### Minor Cæsarean Section.

Much has been written lately in regard to minor Cæsarean section. Drastic as the emptying of the uterus by abdominal section before viability of the fœtus appears to be, there are conditions under which a woman would not survive the strain of expelling a fœtus of even four or five months. In progressive failure of compensation of the heart if pregnancy is beyond three months, this might be the operation of election, because it puts less strain on the heart than any other method.

#### General Considerations.

In deciding for or against operation both the mother and the fœtus must be considered.

The child must be alive and viable. The only exceptions to this are extreme degrees of pelvic contraction or heart disease with failure of compensation of such a degree that it is considered that labour would kill the mother or permanently cripple her heart.

In cases of disproportion every effort should be made before aiming at a conclusion by version, pad and binder and so forth to bring the child into the most favourable position. If the labour has taken place under conditions of doubtful sepsis, if repeated vaginal examinations and manipulations have been made and if forceps have been applied unsuccessfully and trauma inflicted to the passages, the mortality of the operation is high. Consequently other methods are usually preferable.

I realize that much has been omitted or but briefly considered in this paper, but so many debatable points have been raised that I must allow time for the valuable contributions I expect from the discussion. Finally we all realize that valuable as Cæsarean section is, it shows symptoms in some quarters of becoming a vogue and I am in hopes that the discussion tonight will help us all to crystallize the indications for this operation.

## INDICATIONS FOR INTERFERENCE DURING LABOUR.

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NUMEROUS conditions arise during labour which call for some interference on the part of the attending obstetrician. Quite a number of these complications which occur during labour, can be avoided by a careful preliminary examination and it is to this matter firstly that I wish to direct your attention.

It is advisable to examine every patient during the early months in order to ascertain if any misplacement of the uterus is present and rectify the same. It is particularly important, however, that every patient should be examined five or six weeks before the expected date of confinement. It is due to the neglect of this examination that so many complications are not observed until the patient is in labour.

The first point in the examination is the careful pelvic measurement and if any abnormality is detected the obstetrician will be able to interfere at the proper time with a much better prospect of success than when suddenly faced during labour with some pelvic difficulty.

A careful abdominal palpation should never be omitted as by this means the existence of any abnormality of position or presentation can be ascertained. An internal examination should also always be made in order to find out if any tumour as myoma or ovarian cyst is present which might give rise to serious difficulties if unrecognized.

By making a careful preliminary examination you can recognize the exact presentation beforehand and can also convert a breech, transverse or face presentation into a vertex.

In labour, all things being equal, the size of the foetal head has its proper relation to the pelvis and, the uterine pains being strong, regular and effective, the os dilates in a regular manner, the membranes rupture at the appointed time and the foetal head comes on to the pelvic floor. The question which arises here is, should forceps be applied to assist the delivery or should it be left to the mother's expulsive pains?

Personally I consider that the use of the forceps applied in the correct position with the patient under full anaesthesia will save many perineums which would otherwise be considerably damaged by the mother's own efforts. The lay mind is now so fully alive to the advantages and ease that chloroform gives, that they expect and insist in no weak manner that chloroform should be given. This is one of the reasons for the fact that in private practice forceps are so frequently used and provided they are not applied until the head is on the pelvic

floor, their use is certainly of great value to the patient.

## Forceps.

It must always be remembered that there is a danger to the foetus in the use of forceps. Primarily the use of forceps is as a tractor and the amount of traction depends on the amount of force used on the handles or axis traction.

This traction brings into play another action of the forceps for which they were not intended, but unfortunately cannot be avoided, namely that of compression. The forceps cannot act as a tractor until they compress sufficiently to get a hold which will not slip. It is the securing of this hold and the maintaining of it which may do a very great damage. There is no question whatever that many children have been accidentally killed by the forceps acting as compressors of the head. Especially is this the case if traction on the forceps is made with the blades improperly locked.

There should be no force in locking the blades. If this is necessary, you can be certain something is wrong with the application of the blades or the position of the foetal head. Rather than proceed with delivery in such a case withdraw both blades, satisfy yourself that the head is in the correct position and then reapply.

Forceps have been used: (i.) In the high forceps operation and also when the head is free above the pelvis, when the maximum diameter of the head is above the pelvic brim. (ii.) In the median forceps operation, when the head has descended below the brim but is still in the oblique diameter. (iii.) In the low forceps operation, when the head is on the floor of the pelvis and the occiput has rotated under the *symphysis pubis*.

The high forceps operation should be entirely eliminated and the forceps should never be applied until engagement of the head is present. Before applying forceps always see that the bladder is emptied.

The indications for the use of forceps must be classed as indications for interference during labour. Their use may be necessary to hasten delivery on account of some condition present affecting the mother or child or they may have to be used actually to make delivery possible.

Some of the maternal indications are uterine inertia, rigid perineal floor, exhaustion, eclampsia, disease of the heart, lungs, kidney or other constitutional condition, *ante partum hæmorrhage et cetera*.

Some foetal indications are decreasing heart action, prolapse of cord, arrested progress and the escape of the meconium in vertex presentations.

Weak uterine pains and non-usage of abdominal muscles are probably the most frequent indications for use of forceps. Also you will find that in elderly *primiparae* their use is indicated frequently and generally earlier. This is due to the resistance from the rigidity of the bony pelvis, perineum and vaginal outlet.

<sup>1</sup>Being a lecture delivered during the obstetrical course of the Melbourne Permanent Committee for Post-Graduate Work on June 30, 1925.

On the other hand even in the absence of any obstruction or inertia the patient must not be allowed to go too long in the second stage if pains have been satisfactory and regular, as the child will suffer in consequence from the prolonged severe contractions to which it has been subjected and the labour should be terminated by forceps, if no advance is made after two or three hours.

Also if the head has been on the perineum for half to one hour and no progress made, it is advisable to apply forceps.

These conditions can be attained much more satisfactorily in hospital practice than in private practice. Forceps are used much more frequently in private practice and if they are applied properly and if sufficient care is exercised in their use, they become in many cases a help to the patient by eliminating the last expulsive and bearing down pains. Forceps used in a skilful manner with a thorough knowledge of their use and action will save more perineums from the severe lacerations that result from the efforts of the mother.

Extractions should be made slowly and intermittently. Particularly is this necessary in *primipara* so as to give time to dilate and stretch the perineum.

When the anterior fontanelle is felt at the margin of the posterior vaginal wall the forceps can be unlocked and delivery completed with the forceps in that position. Or what is preferable now remove the blades and complete the delivery by retracting the perineum. Pressure behind the anus tends to cause perineal tears if the tissues are at all firm.

In median forceps operation, the blades should always be applied to the sides of the head and this can best be done by feeling with the fingers of the left hand the position of the posterior ear over which the blade can be applied. The other blade is then applied over the anterior ear and as traction is made the occiput rotates under the *symphysis pubis*. If there should be any difficulty in moving the head it is always wise to remove the blades and make certain that the head is not in the posterior position.

Any attempt to deliver with forceps through a cervix that is not sufficiently dilated, can only result in severe lacerations and these may cause severe hæmorrhage or infection. If it is necessary to deliver before the *os* is dilated sufficiently, it is better to dilate manually by passing the whole hand into the vagina. When this has been done forceps can then be applied with less risk of cervical tearing.

The high forceps operation causes serious foetal mortality as here the head is subjected to severe pressure which causes rupture of intracranial vessels and death of the child. Fracture of the skull will also occur especially when forceps are improperly applied.

Prolongation of labour is a condition which sometimes causes considerable worry to the obstetrician. This is usually attributed to imperfect dilatation

of the cervix due to the rigidity of its tissues. The most common cause, however, is weak uterine contractions and a rapid dilatation of the *os* will occur when strong contractions are induced.

For example, in a *primipara* with the head well down in the pelvis, with the *os* dilated to three-quarters its full extent and with its margins thin there is only a small amount of *liquor amnii* in front of the head. No advance of the head has been made and there is no increase in the dilatation. This is always due to weak uterine pains. It is clearly indicated in these conditions that some help is needed to increase the uterine contractions and avoid uterine inertia. The method which will give most excellent results is to rupture the membranes and give one-half a cubic centimetre of pituitrin intramuscularly. In a few minutes the pains increase in intensity and the labour terminates satisfactorily.

On the other hand when the pains follow one another rapidly and there is some cervix present and when the pains have no appreciable result on the dilatation, good results follow the giving of morphine in doses of 0.02 to 0.03 gramme (one-third to half a grain). The patient has some rest from uterine contractions and perhaps sleeps. On the return of the pains they are stronger and dilatation goes on well. Besides inducing rest the morphine seems to act as a dilating agent by allowing the presenting part to sink further into the pelvic canal.

Again if the mother should show signs of exhaustion by increased pulse rate and rising temperature or if the condition of the child should indicate danger, some form of interference is necessary. This should be done for these reasons only and not with the idea of shortening the labour. If in such conditions as these the cervical canal is obliterated and the margins of the *os* are thin and dilated perhaps to two-sixths of the full dilatation, the completion of the dilatation of the *os* can be manually performed and delivery terminated by forceps. In mentioning this method of manual dilatation (and only to be adopted if the cervical canal is obliterated) its use is only to be considered if there is present some definite indication. It is difficult to estimate and regulate the force which one uses and extensive laceration and bruising of the tissues may result.

If the cervical canal has not been obliterated, manual dilatation should not be considered, but the introduction of a Champetier de Ribes bag will be found to bring about good contractions and in a few hours be expelled with corresponding dilatation of the *os* and obliteration of the cervix.

#### The Use of Pituitary Extract in Labour.

There have been cases reported of rupture of the uterus during labour after giving pituitary extract. Personally I have used pituitary extract in a large number of cases both in hospital and private practice and have yet to see any ill effect from its use.



The report of the above cases of rupture can to my mind only be due to using the drug when the indication present for its non-usage had been overlooked. It has a very important place in obstetrics and I know of no drug that I would more regret giving up than this extract.

It must be remembered that its action is rapid and powerful and cases in which it is used, must be carefully selected and definite indications must be present.

Briefly pituitary extract should not be used in a *primipara* unless the *os* is fully dilated, unless the membranes are ruptured and unless the fetal head is on the pelvic floor and the uterine pains are showing signs of weakening.

In *multiparae*, however, it is of very great value, particularly in cases in which the *os* is three-quarters or fully dilated and in which the uterine contractions are weak. Morphine is not required in these cases as dilatation is too far advanced, but on giving half a cubic centimetre of pituitary extract and rupturing the membranes the pains quickly increase in strength and the child is born without any application of forceps being necessary. Following this the uterus keeps firm during the third stage and the placenta is more easily expressed. I have never seen retention of the placenta caused by the action of pituitary extract and I am sure that the amount of blood lost *post partum* is less.

Before using pituitary extract the following conditions must be present: (i.) There must be engagement of the fetal head. (ii.) There must be a nearly fully or an easily dilatable *os* present. (iii.) The membranes must be ruptured.

If there is any obstruction to the onward progress of the fetus and pituitary extract is used indiscriminately, it is quite possible that the mother and child will be endangered. Its action is so powerful that tetanic contraction of the uterus will result and deep anaesthesia may become necessary or the fetus can be asphyxiated by the severe pressure to which it is subjected.

Rather than condemn a drug whose value in obstetrics is so great, on account of any fatalities that occurred after its use, I would be inclined to blame the attending obstetrician for not being familiar with the conditions requiring its use and consequently selecting the wrong case.

#### Rigid Cervix.

The term rigid cervix is used generally in a case in which dilatation is slow and the first stage is unduly prolonged.

This is more likely due to the fact that the pains are weak and ineffective rather than to the presence of any great rigidity. It is not a frequent occurrence and is more likely to occur when membranes rupture before pains commence. The presence of any abnormality must be looked for in these cases and a careful abdominal examination is of particular value. You can by this means determine whether the head is in the vertical or oblique position and where it is situated in relation to the pelvic brim.

I would draw your attention to obliquity of the uterus as being a not uncommon cause of prolongation of the first stage and non-dilatation. Here the uterine contractions instead of forcing the vertex in the line of least resistance cause the head to impinge on either brim of the pelvis and partly in the iliac fossa. Unless this is corrected early, there is very grave possibility of death of the fetus through internal pressure. Here the indication for interference is to correct the obliquity, put on a light binder and if the *os* is dilated between half and three-quarters of its full extent to rupture the membranes.

Occipito-posterior position can also be recognized by abdominal palpation mentioned above. The treatment in these cases of rigid cervix is not to interfere too soon and morphine and hyoscine have a very excellent effect in helping the advancement of the presenting part.

Active treatment such as manual dilatation of the cervix or other method of dilatation should not be attempted, unless there is some sign of disturbance of the mother or foetal distress, such as presence of meconium and slowing of the foetal heart.

If artificial dilatation must be done, Champetier de Ribes's bag is the safer method. This should be introduced after the membranes have ruptured.

The employment of manual dilatation as advocated by some obstetricians is a method that causes considerable danger to the cervix in the shape of lacerations and infection.

Some years ago this method of manual dilatation was frequently used at the Women's Hospital in cases of eclampsia. I fortunately examined a number of my own patients later and the condition of the cervix and *os uteri* was found to be in such a bruised, lacerated sloughing state that I discontinued the method from then on. I would suggest that any of you who use this method at all, examine your patient's cervix (before she gets out of bed) and you will be surprised at the result of your efforts.

Where there is scar tissue present in the cervix as a result of amputation or other operation and true rigidity is present it is preferable to deliver by Caesarean section rather than lose the fetus by prolonged labour or attempt to deliver through a cervix with no dilating power and the consequent ill results which follow.

#### Delayed Labour and Inertia.

The surroundings of private midwifery practice are quite different from those of hospital practice and this no doubt partly explains the more frequent use of forceps in private practice.

If a patient is attended in her own home and the labour is protracted it is generally found that the husband, mother and other relatives become anxious and considerably disturb the nurse, patient and even the medical man himself. The patient becomes restless and shows signs of losing self-control. This is a factor in weakening uterine pains and helping to cause delayed labour. If the

patient is tired and has not had sufficient rest and the pains are weakening, particularly if she is still in the first stage of labour, rest is essential. Here the giving of morphine with atropine is of very great benefit. This frequently stops the pains but sleep does not follow. To induce this give potassium bromide and chloral hydrate by mouth. After having some sleep the patient is refreshed and under the influence of the sedative the head has descended further into the pelvis. Now a hot bath and a rectal wash-out help to stimulate contractions. The membranes can be ruptured and the child delivered either by forceps or normally after giving pituitary extract if the *os* is fully dilated.

On the other hand in *multiparæ* you will find labour is delayed because the head does not enter the pelvis and in these cases the membranes should be ruptured when the *os* has dilated to the size of a five shilling piece. The head then comes down into the cervix and frequently appears at the vulva after a few pains. This is a particularly important point to remember in dealing with *multiparæ* who have been in labour for several hours with the *os* dilated and no engagement of the head.

When there is delay in the second stage of labour the head is generally well down. Some of these cases will be due to occipito-posterior positions and in all these the indication is for artificial delivery and not for the giving of sedatives.

#### Tetanic Contraction of Uterus.

Tetanic contraction of the uterus occurs usually in the second stage of labour when the uterus instead of relaxing at regular intervals is affected by the contractions which become continuous and to this the term tetanic contraction has been given. This usually occurs after a prolonged labour and there is generally some obstacle to the onward progress of the child. There is a definite danger of rupture of the uterus resulting if the condition is not recognized and while it is in this state of tetanic contraction, it is impossible for the uterus to deliver the child. The child can also be seriously affected owing to interference with the placental circulation.

The uterus here seems to mould itself to the child and so tense is the muscle that the foetal parts cannot be made out. The uterus is also often very tender. In these cases Bandl's ring forms. This is the lower border of the muscle which separates the upper segment from the thinned out lower uterine segment. The height of Bandl's ring can be taken as an indication of the danger of the case. On vaginal examination in these cases the vagina is found hot and dry. There is also some swelling of its walls and the labia are oedematous. The patient herself is generally very much disturbed by the violence of the contractions. She experiences agonizing pain and shows her anxiety in her facial expression. The pulse becomes more rapid and feeble and the temperature rises.

At this stage rupture of the uterus is imminent. Immediate delivery is the only treatment for both mother and child. If the head is presenting and the child is alive, apply forceps under anaesthesia.

If the child is dead, perforation and extraction are the easiest. If the dead child is in a transverse presentation, decapitation should be done.

If rupture should occur, the change in the aspect of the mother is considerable. She feels that something has given way and quickly passes into a state of shock. She becomes quite prostrated, pale if much loss of blood has occurred and the pulse is feeble and rapid. By vaginal examination the presenting part cannot be reached, the labour pains have ceased and by abdominal palpation the foetus can be felt outside the uterus. The rupture is usually caused by attempting to turn when the uterus is in a state of tonic contraction.

What is the procedure with the uterus ruptured and foetus and perhaps placenta in the abdominal cavity? No further attempt should be made to extract the foetus *per vaginam*. This method is advocated by some authorities even if the child is in the abdomen. Any manipulations such as these must add to the shock from which the patient is suffering, as well as possibly increase the tear in the uterus.

I have attended seven or eight patients with ruptured uteri and always open the abdomen as it is only by this means that any hæmorrhage going on can be controlled. Removal of uterus is the safest method, as repair of an irregular tear is difficult and it is possible that infection has already occurred.

The mortality from these desperate conditions is high.

#### Occipito-Posterior Positions.

Occipito-posterior positions will in a number of cases necessitate some interference during labour. Hospital records state that 90% of the foetuses will rotate to the anterior position if left long enough. This can be done in hospital, but in private practice the conditions are not quite the same and frequently from the over anxiety of the patient's relatives and their apprehension that there is something more serious present than only a prolonged labour, the obstetrician does not wait for Nature to complete the process of rotation, but is obliged to render some help.

It is often difficult to decide when to interfere in occipito-posterior positions. The labour may be allowed to go on (i.) if there are no signs of exhaustion, (ii.) if no sign of foetal distress is present, (iii.) when the head is making progress, (iv.) if the occiput has not rotated into the hollow of the sacrum, but is in the oblique diameter.

If the head is not advancing and the pains are strong, interference is necessary in the shape of manual rotation of the occiput forwards.

This should not be attempted without an anaesthetic and cannot be performed successfully without introducing the whole hand into the vagina. Personally I do not attempt to rotate the head on the shoulders, but passing the hand beyond the head rotate the body round *in utero*. The head rotates in consequence. This manœuvre is much safer to the foetus as there is very grave danger to the

meningeal vessels by compressing a fetal skull. It is easier to accomplish and the head does not rotate back again; forceps are then applied and the fetus delivered.

Forceps should never be applied to the head if it is in the hollow of the sacrum either to deliver in that position or for an attempt at rotation. If delivered in the posterior position, not only is the delivery much more difficult, but the injury to the perineal tissues is so great that unless very careful suturing follows the delivery, the mother's convalescence is much impaired.

#### Face Presentations.

Interference in face presentations is necessary from two standpoints and treatment depends on the cause of the face presentation. If a contracted pelvis is present, it is quite evident that it is this condition that must be dealt with rather than the face presentation. When such a condition is seen early in labour before any internal manipulation has been attempted and before the possibility of introduction of sepsis, Cæsarean section is the right method of delivery and the only means of obtaining a living child. If there are any apparent risks to the mother by doing this operation, craniotomy is the only alternative.

When the pelvis is of normal size and the membranes unruptured, it is quite possible to convert the face into a vertex presentation and it must be remembered that if this manoeuvre is not successful, a brow presentation may result.

If the face is already in the pelvis, if the membranes are ruptured and the position is mento-anterior, the patient can be delivered naturally.

Should the chin not rotate to the front, manual rotation should be performed and forceps complete the delivery. If it is impossible to rotate the chin to the front, the head must be perforated and delivered.

#### Breech Presentations.

In *primiparæ* a breech presentation means very serious danger to the fetus and it is for this reason mainly that an attempt is made to convert all breech into vertex presentations before labour commences. The fetal and neonatal mortality rate in *primiparæ* is as high as 10%.

*Post mortem* examinations on breech born children who are dead on delivery or who die shortly after birth, show that in three-quarters of the cases there is some tearing of the *tentorium cerebelli* and also cerebral hæmorrhage. This is due to too rapid extraction of the head rather than to pressure on the cord as formerly believed. The after coming head should be delivered gently, but firmly, and when the mouth first shows over the perineum, a rest from manipulations is of value in order to distend a little more the perineal tissues. As soon as this undue haste in delivering the head is eliminated by the obstetricians, so soon will the injuries to the head be considerably lessened.

A breech delivery differs essentially from a vertex delivery in the fact that in the latter as soon as

the head is born, the rest of the fetus follows usually with comparative ease, whereas in a breech delivery the difficulties increase step by step until the head is born.

Interference in a breech labour will be necessary when the breech does not enter the brim or the breech may be arrested in the cavity of the pelvis after labour has been in progress for some time or it may be arrested on the perineum.

This is due to: (i.) Contraction of the pelvis; (ii.) a very large fetus; (iii.) weak uterine pains; (iv.) some obstruction in the pelvic cavity by tumour, cyst *et cetera*.

The patient should be anæsthetized and a careful examination should be made. If the fetus is too large for its passage through the pelvis, if there have not been any attempts at delivery and the fetus still alive, Cæsarean section is the proper treatment.

If the patient is infected as shown by a raised temperature and rapid pulse, the risk to the mother of doing this operation is increased considerably and the better method then is by traction after bringing down a leg and by evisceration and perforation of the after coming head.

Frequently this delay is due to some weakness of uterine action together with slight pelvic contraction. In these cases a leg should be brought down and if the uterine contractions are not strong enough to do their work, 0.015 gramme (one-quarter of a grain) of morphine with some hyoscine will be found of great benefit.

On no account attempt to hurry the labour by traction on the leg if the os is not fully dilated. This will only increase the difficulties in a very definite manner. The os, not fully dilated, grips the neck of the fetus firmly and any forcible attempts at delivery will now cause considerable damage to the cervical tissues. After bringing a leg down and giving the sedative leave the condition to Nature and it is surprising what good results follow.

The breech may be arrested in the pelvis and here interference is necessary. This occurs most frequently with an incomplete breech presentation. Here the bringing down of the extended legs is very difficult and if the uterus is contracted down on to the body it becomes impossible without damage resulting. The only way to dislodge the breech is by some form of traction. Sometimes one is successful here by hooking the finger round the groin and making traction and if a finger of the other hand can be inserted into the other groin this will help considerably. The application of forceps, however, is a very effective means of delivering the breech, but care must be exercised in using them. Properly and skilfully used this method is of great assistance and there is less possibility of damage than that caused by using a hook.

If the arms become extended it is necessary to deliver them by the usual methods.

If one of the arms has slipped behind the head (nuchal position of arm), the fetus must be rotated so that the chest turns towards the arm behind



the head. It is then brought down in the usual way.

Sometimes the after coming head will be arrested above the brim, even though the shoulder and arms are born. Here help is required. Pass your left hand under the foetal body until the fingers feel the face. Two fingers are then introduced into the mouth and the other fingers of the same hand on the shoulders near the neck. The fingers in the mouth are to be used only to flex the head.

With the right hand outside the abdomen, push the head into the pelvis. This requires considerable pressure. This manœuvre seldom fails to push the head into the pelvis and it at once comes down on to the perineum. It is the traction on the shoulders before the head is in the brim that causes such damage to the child. If pressure from above fails to push the head into the brim, traction on the shoulders will never be successful.

If by using this method the head cannot be made to enter the brim, perforation is necessary before delivery can be effected.

If the head becomes arrested in the pelvis or on the perineum, it is then that one is apt to extend forcible extraction with resulting injury to the foetal skull contents. Shoulder traction aided by pressure from above is generally sufficient and if this should fail, forceps should be applied to the after coming head. To be effective as far as delivering a living child is concerned they must be applied early. The forceps are easy to apply and there is less likelihood of injury to the head by their use than there is with forcible extraction on the neck.

The foetal body should be held forward by an assistant and the blades introduced in the same manner as in a vertex.

#### Transverse Presentation.

There is no routine treatment for transverse presentations. Each one must be dealt with according to the condition present. As interference is necessary in practically all cases of transverse presentations, a thorough examination must first be made as to whether the child is alive and the condition of the patient and particularly the uterus. As it is in relation with this complication of labour that the serious accidents of ruptured uterus occur most frequently, it is of the utmost importance that the performance of any intrauterine manipulation must be done with the greatest care and gentleness.

One of the causes of transverse presentation is contracted pelvis which acts as an obstacle to the accommodation of the head in the lower uterine segment. If the patient is seen early in labour before the membranes have ruptured and if the measurements of the pelvis reveal definite contraction, the indication for treatment is Cæsarean section as this method of delivery undoubtedly gives the best results to both mother and child.

Should the pelvis, however, not be contracted and if the membranes are intact, external cephalic version can be done. A tight abdominal binder should then be applied and if the os is dilated to the size of a five shilling piece or to three-quarters of its

full extent, rupture of the membranes will be of help in securing further engagement of the head. I have attempted this procedure on several occasions and found it of little avail. I invariably now adopt the method of rupturing the membranes when the os is almost fully dilated, perform internal podalic version and extract at once. There is very little risk of causing rupture of uterus in a case of this kind.

On the other hand, if the patient is not seen until well advanced in labour and the membranes have been ruptured, there is probably found an arm in the vagina or an impacted shoulder. The treatment then depends chiefly on the condition of the lower uterine segment, the dilatation of cervix and whether the shoulder is impacted. If the uterus is not firmly contracted round the child or the lower uterine segment is not thinned out, bipolar version should be performed and the child extracted.

If, however, the shoulder has been forced into the pelvic cavity the position becomes serious. The lower uterine segment is then found to have been thinned out with retraction of the upper segment and here any attempt at internal version is absolutely wrong. Even in *primiparae* it is better to destroy the life of the child whose chances are already very poor than to run the risk of destroying all possibility of future children to the patient.

The treatment in such a case is decapitation, delivery of the body and subsequently of the head. If the neck cannot be reached, as is occasionally the case, division of the spinal cord and evisceration can be done with comparative ease and very little risk to the mother.

#### Brow Presentations.

Brow presentations are not frequent, but as it is the infrequent complications that sometimes confront the young practitioner, he must be prepared to recognize these malpresentations early and also recognize their cause. Proper methods of delivery can then be carried out and the mother and child will not suffer.

The cause of this presentation is anything that interferes with flexion of the head and in consequence extension becomes prominent. Contracted pelvis is the commonest cause and also obliquity of the uterus.

The treatment is to convert the brow into a vertex or face presentation. If seen early in the first stage, this manœuvre is generally successful. If the brow is engaged in the pelvis, the head must be pushed up above the brim before this conversion can be successful. These attempts failing and pelvis being large enough, then perform bipolar version.

If attempts at delivery have been made and the brow has been pulled well into the pelvis, perforation and craniotomy should be done.

Cæsarean section is indicated in brow presentation only on account of any definite pelvic contraction and not on account of the presentation. It should be done only if the condition is recognized early in labour.

In persistent brow presentation pubiotomy would certainly be of great assistance in accomplishing a successful delivery.

#### Multiple Pregnancy.

I am mentioning twin labour only to deal with the rare complication of locked twins. I have not seen one instance at the Women's Hospital, but we have had two in our own practice, the last only a few weeks back.

In this case the aftercoming head of the first child was locked by the descent of the forecoming head of the second. The second head could not be moved, so the head of the first child was decapitated and the second delivered by forceps. The decapitated head was then extracted.

It is always sound practice to sacrifice the first child whose chances are small, in order to save the second child.

In uncomplicated multiple pregnancy labour is very often premature. It is usual to find that the membranes rupture three or four weeks early. An examination should be made to ascertain if the cord has prolapsed.

After birth of the first child the cord should be tied in two places as there may be an anastomosing fetal circulation. An abdominal examination should be now made and if the second child is lying obliquely, as it frequently is, the presenting part is pushed into the pelvic brim and light bandage applied. Otherwise a transverse presentation may result. After fifteen minutes examine vaginally to ascertain the presentation of the second child and also rupture the membranes. After the birth of the second child control the uterus and do not attempt to express the placenta until it has separated.

#### Prolapse of the Cord.

Some interference is necessary during labour when either a presentation of the cord is present or a prolapse of the cord occurs. In presentation of the cord this can be felt through the unruptured membranes in front of the presenting part.

Prolapse occurs after rupture of membranes and is due to imperfect engagement of the presenting part. Unless prompt delivery can be effected this condition frequently causes fetal death due to compression of the cord between the presenting part and the wall of the pelvis.

In presentation of the cord the patient should be placed in the knee-chest position. The fundus of the uterus is placed at a lower level than the presenting part and this allows the cord to fall back into the uterine cavity. A light abdominal binder can then be applied in order to keep the presenting part more firmly adapted to the inlet of the pelvis.

Sometimes the cord will prolapse with rupture of membranes and the vertex become fixed in the pelvis at the same time. In these cases forceps should be applied as soon as full dilatation occurs and delivery completed. In transverse presentation version is the best method.

If the cervix is only partly dilated the chances of the child surviving become much lessened. In

these cases if the cervical canal has been taken up, I have had good results by manual dilatation, version and delivery.

If, however, the cervical canal is still present and the cord prolapsed, replacement of the cord should be attempted. Under anaesthesia with the whole hand in the vagina try to replace the cord in the uterus above the presenting part. If this is accomplished and the head engages, no further interference is necessary. Unfortunately it is seldom successful and the re prolapse recurs as soon as the hand is removed. My own attempts at replacing the cord with a bougie have been unsuccessful.

It is in this class of case in which the cervical canal is not obliterated and in which all attempts at replacing the cord have failed and especially if the patient be a *primipara*, that in the interests of the child only Caesarean section can be suggested. One must be certain that the child is alive before operating. Personally I do not think the operation should be performed after repeated attempts at reposition of the cord have failed as they invariably do. By this time there is probably an introduced infection of the vaginal tract and it is wiser to run the risk of a 50% fetal mortality and deliver in the usual way than to subject the mother to a possible general infection by abdominal operation.

It is in this class of case in which prolapse of the cord is present, in which the cervix is not taken up and in which no dilatation has occurred, that the advantages of Caesarean section to the child should be explained to the parents and if they elect to gain these advantages, the operation should be performed.

Recently I had a patient with prolapse of the cord. She was a *multipara* with no dilatation and with a cervical canal present. Her previous obstetrical history was that in the first two confinements vertex presentations were present and delivery in each gave great difficulty. The presentation at the third labour was transverse and the child was born alive. In the fourth prolapse of cord was present.

With each succeeding pregnancy the uterus became more lax in tone. The first two were managed all right with considerable difficulty, with the third the uterine muscle was so lax that a transverse presentation resulted. With the fourth the position was assuming the same when the membranes ruptured and the cord prolapsed.

#### Asphyxia of the Child.

In any prolonged labour it is important to watch the condition of the child, as if any threatened intrauterine asphyxia shows itself, this is a definite indication for interference if the life of the child is to be saved.

Usually the first sign of asphyxia is an increase in the fetal heart rate varying from one hundred and sixty to two hundred. As the state of asphyxia gets worse, the pulse rate slows and any fetal pulse rate below one hundred and twenty indicates that

life will not be prolonged for any length of time.

In vertex presentations the escape of meconium is another sign that the foetus is in distress. This is due to the *sphincter ani* muscle becoming relaxed and when the presence of meconium shows in the amniotic fluid, one can conclude that the child is in danger and prompt delivery is necessary to insure its safety.

In breech presentations this symptom has not the same value, as its escape is usually due to pressure on the abdomen of the foetus.

The foetus should make its first inspiratory effort after birth, but in the case of a patient whose child presented by the breech and whom I attended some years back, while the child's head was still in the uterus it cried lustily. Where it got its supply of oxygen from I do not know, but it certainly was a way of indicating that the child was alive and haste was not necessary.

#### Hydramnios.

If the formation of the fluid in hydramnios is slow, the patient frequently goes on to full time. On abdominal examination the uterus is found to be larger than usual. The fetal parts cannot be felt, nor can the foetal heart sounds be heard. During labour the presenting part does not fit into the lower uterine segment and the foetus floats about in the *liquor amnii*. This causes delay in the first stage and on vaginal examination the *os* is dilated and a distinct *ballottement* even at full term can be elicited. It is useless to allow the first stage of labour to continue in hydramnios no matter how small the dilatation is. The uterine muscle only wears itself and no advancement is made. The membranes should be ruptured so as to allow the presenting part to sink into the lower uterine segment. In rupturing the membranes care must be taken not to allow the liquor to escape suddenly. This is accompanied with shock and may be the means of causing a malpresentation.

Plug the opening in the membranes with your fingers and as the fluid escapes slowly the uterine muscle contracts down on to the contents of the uterus.

#### Abnormalities of the Foetus.

Abnormalities of the foetus will cause difficulty in labour and interference is necessary in order to terminate it satisfactorily.

Hydrocephalus is a not infrequent cause of trouble. If the enlarged head is not tensely filled with fluid, you find that the uterine contractions so change its shape that delivery is possible without interference. In the majority of these cases, however, this does not occur and some relief is necessary to prevent rupture of the uterus from the dystocia it causes. Usually hydrocephalic children present by the breech because the pelvic canal cannot accommodate the enlarged head. In either breech or cephalic presentations the head should be perforated and extraction then becomes easy.

In foetuses with abdominal distension due to ascites or tumour the abdomen should be opened.

*Spina bifida* can give rise to difficult labour.

#### Ante Partum Haemorrhage.

Interference during labour will be necessary in cases of *placenta praevia* and accidental haemorrhage.

It is usual to get signs of *placenta praevia* before any labour pains have commenced, but cases do occur in which the first sign of severe haemorrhage shows with the onset of pains. Here treatment varies according to the situation of the placenta and the dilatation of the *os*. There is a great difference in the results obtained from the treatment of central and the other varieties of *placenta praevia*. The lateral and marginal types can be dealt with fairly safely by rupture of the membranes, version, the application of forceps if sufficient dilatation is present or by the use of Champetier de Ribes's bag.

In the central variety, however, the risk to the mother is very much greater and the possibility of delivering a living child very small. Here, as I mentioned last week, Caesarean section is the safest procedure and will, I am sure, in the future be more universally used than the method of tearing through the placenta and doing version which up to date has been the generally used method.

This is a very grave complication and the best measures must be adopted which will insure a minimal maternal death rate.

The other forms of *placenta praevia* are treated by version after rupturing membranes and bringing the half breech into the already dilating *os*. This acts as a plug to further haemorrhage and as the patient is in labour the pains are stimulated and usually the labour ends quickly. It should never be hurried as the thickened and softened uterine tissue is with ease severely torn.

If the vertex is filling the *os* and no obstruction to its progress is present, a light binder can be applied and forceps used when dilatation is sufficient.

If accidental (concealed and revealed) haemorrhage is present and the patient is in labour with the cervical canal obliterated, the progress of the labour must be watched carefully and delivery with forceps is necessary earlier than in normal labour on account of the interference with the action of the uterine muscle fibres occasioned by the presence of the haemorrhage. It will be necessary to direct particular attention to the third stage and all means of dealing with a severe *post partum* haemorrhage must be at hand and ready as the waste of time preparing these later will be sufficient delay to cause a fatal result.

If, however, the cervical canal is present and no dilatation has occurred and one is certain that a concealed as well as a revealed haemorrhage is present, the safer plan is to open the abdomen, deliver by section and according to the state of the uterine muscle either remove it by hysterectomy or leave it if satisfied that proper contraction and retraction is present.

I dealt last week with the treatment of concealed accidental haemorrhage and have nothing further to add to the remarks made then.



#### Eclampsia and Labour in Progress.

Frequently the onset of convulsions causes labour pains to commence. With the patient in a comatose condition it is difficult to recognize that labour is going on. If there is any sign of slight restlessness even when deep coma is present, the abdomen should be palpated and the contractions of the uterus will then be easily felt. The labour is usually quiet and also rapid. The cervical tissues dilate easily and the progress of the child is usually quick. If the restlessness is becoming more noticeable, a vaginal examination should be made and the membranes ruptured if the os has dilated to three-quarters of its full extent. This lessens the length of the second stage considerably and as the fetal head descends on to the perineum, the labour should be terminated by the application of forceps under ether anaesthesia. In these cases the perineal tissues are usually oedematous and tear easily, so in using forceps greater care is needed in order to avoid these injuries.

Before applying forceps and whilst the patient is under the anaesthetic I always wash out the stomach and leave in some aperient. After the third stage is completed, you will find it beneficial to have a high wash out of the bowels given. This relates to patients seen for the first time in convulsions to whom no preliminary treatment has been given.

I might mention here that I was beginning to think that eclampsia as a complication of pregnancy could be eliminated if proper care were taken of the patient during her pregnancy. During the last two years in our own practice in which over eight hundred patients were attended and in all of whom careful antenatal care was conducted, there was not one that developed eclampsia. There were a number who threatened eclampsia and in those who did not respond to treatment, labour was induced with good results.

However, only a few weeks back two of my patients became affected by eclampsia within a few days of each other. Each was a *primipara* and I had seen each patient only twelve hours prior to the onset of convulsions. In neither was the blood pressure raised. The only premonitory symptom in each was acute epigastric pain one hour or so before convulsions commenced. Each patient fortunately came into labour shortly after the onset of convulsions and these latter ceased in each instance after the birth of the child.

I mention this to impress on you the importance of considering each pregnant woman a potential eclamptic and by so doing you will then direct your care and attention to her during her pregnancy and so prevent as much as possible this serious complication which so often follows neglect.

#### Tumours Obstructing Labour.

The two principal tumours found obstructing labour are fibroids and ovarian cysts. If diagnosed during pregnancy and particularly if occupying Douglas's pouch, removal should be advised. If however, they are first found during labour, an attempt under anaesthesia to push them into the

abdomen should be made. If this is impossible, it will be found that the head cannot enter the pelvic brim and with each succeeding pain the tumour fills the pelvis more completely.

An abdominal section is here indicated and in the large majority of these cases it is quite impossible to deliver the tumour until the uterus is emptied. One is then forced to empty the uterus by Caesarean section and remove the tumour directly afterwards.

If malignant disease of the cervix is diagnosed during labour, the child should be delivered by Caesarean section and the uterus removed by total hysterectomy. A malignant uterus is more easily removed at this stage than at any other period because of the laxity of the tissues. Great damage is done by delivering the child through a cancerous cervix and fatal results to the mother may follow by sepsis, hæmorrhage or uterine rupture.

#### Contracted Pelvis and Patient in Labour.

In mentioning contracted pelvis here I am dealing only with cases in which the patient is in labour and the head has not entered the brim. In *primiparae* a narrowing of the pelvis should always be suspected if the head is not fixed after labour starts. A vaginal examination should never be done to ascertain this, as it is easy to find out by abdominal palpation.

If not done before, external pelvic measurements are now made and as these have been given before, I will not enumerate them now.

A vaginal examination is, however, necessary to find if there is any narrowing of the pelvic diameters. This should be made (under anaesthesia) and at the same time Munro-Kerr's method of ascertaining whether the head will enter the pelvic canal can be used. The head is pushed down from above with the free hand and with two fingers in the vagina the pelvic deflexion can be ascertained and also by passing the thumb along the brim of the pelvis any overlapping is readily felt. Thus the relative size of the fetal head and mother's pelvis is determined and by this method one can decide whether Caesarean section is necessary or whether the head will be able to be delivered after moulding with the assistance of forceps. The true conjugate should be measured as accurately as possible and if this measurement is under 9.3 centimetres (three and three-quarter inches), forceps delivery should not be attempted on account of the high fetal mortality and injuries resulting to the mother.

It is certainly not obstetrics to deliver by brute force a fetus which is either stillborn or dies from cerebral injury shortly after. The mother is the important factor in these difficult forceps deliveries. The use of extreme force must be condemned. Placing the patient in Walcher's position will give a slight increase in the true conjugate. If is of no value when the head will not enter the brim. The infant mortality is so high in these cases and the damage to the mother so great that it is the duty

of every obstetrician to consider this factor before the remote delivery of a live child possibly maimed for life.

In a *primipara* whose pelvis is deformed and who is in labour, Cæsarean section should be performed as early as possible and without any attempts at delivery being made, but where the contraction is of a minor degree the labour can be allowed to go on. In these cases invariably the uterine pains combined with the moulding of the head are sufficient to effect delivery. However, a labour of this kind must be carefully watched and proper measures must be adopted to cope with any signs of maternal or foetal distress.

The important factor in these cases is the size of the foetal head as it varies much in size and consistency. A much longer time must be given to the second stage in order that moulding may be successful, as moulding takes longer in a contracted pelvis than in a normal sized pelvis. The greatest mistake made in these cases is that forceps are applied too early. If plenty of time is given for the head to mould and forceps ultimately become necessary, the delivery is easier and less force is required.

The patient, however, cannot be allowed to go on in the second stage too long. The danger signs have been mentioned before and these are an increased pulse rate, tenderness over the lower portion of the abdomen and restlessness. If the foetus is distressed, its heart rate becomes slower. Forceps must now be applied. If after slight pulling the head will not pass, there are three methods of delivery to be considered: (i.) Pubiotomy; (ii.) Cæsarean section; (iii.) craniotomy.

Pubiotomy is not of any value for cases in which the contraction is at the brim. Also in a case of this kind in which the labour has been prolonged, in which frequent vaginal examinations have been made and forceps delivery has been attempted, Cæsarean section is out of the question. It is the performance of this operation in cases of this kind that brings the operation into disrepute on account of the fatal results that follow.

The mortality of Cæsarean section increases rapidly during labour according to the length of time labour has been progressing and to the chance of infection that is generally present. The mortality given is 25% in cases in which attempts at delivery have been made; why should a risk of one in four be taken when the safer operation of craniotomy can be done and the mother's interests best conserved?

The convalescence is freer from risk and she can go on into the future with the definite assurance that a live baby can be had at future pregnancies either by Cæsarean section at term or where this is not applicable, by induction of labour at the selected time.

In funnel shaped pelvis there may be sufficient room for the head to enter the brim, traverse the pelvic cavity, but be arrested at the outlet. These

cause considerable difficulty in delivery and interference is frequently necessary. In any funnel shaped pelvis the measurements of the outlet should be taken. The antero-posterior measurement is taken from the tip of the coccyx to under surface of pubic bone and is normally 12.5 centimetres (five inches).

The transverse measurement is the distance between the tuberosities of the ischium and is normally 10.6 centimetres (four and a quarter inches).

It looks simple to deliver a head that can be seen in separating the labia and frequently this deformity is only recognized when forcible extraction with forceps is unavailing.

In these cases pubiotomy is of distinct advantage as any separation between the pubic bones gives an equal separation between ischial tuberosities. It is, however, not an operation that can be performed in an emergency in private practice and we are then faced with the last resort of delivery, craniotomy.

#### Cæsarean Section.

In the preceding lecture and also tonight the indications both absolute and relative for performing the operation of Cæsarean section have been mentioned. As this operation will be resorted to more frequently in the future to the advantage of both mother and child, it will not be out of place to mention one or two important facts concerning its use.

First, it should be a primary and not a secondary operation. By this is meant the operation should not be performed after other methods of delivery have failed.

It should also only be performed when the mother's condition is good, the child is viable and in the absence of any infection.

It is a safer and better operation for both mother and child than symphysiotomy or pubiotomy.

Regarding the best time to operate (whether before or after labour has commenced), if done after labour has started we know that pregnancy has probably reached its full term and the mother also has a test to deliver her child. Also uterine contractions being present, hæmorrhage is more easily controlled by the uterus contracting more favourably. If the indications for the operation are definite, it can be done prior to the commencement of labour on the due date on which delivery was expected. This has the advantage of obviating the early rupture of membranes that may occur.

The mortality for the operation done early in labour under favourable conditions is 1% for the mother and 1% for the child. This mortality increases to 25% or 30% for the mother when the operation is done after labour has been in progress for some time and when attempts at delivery have been made.

If the technique of the operation is right and no infection occurs to interfere with union of the uterine muscle, the scar will be firm enough to stand the strain of any future pregnancy and also labour.

## Reports of Cases.

### TREATMENT OF PUERPERAL INSANITY.

By P. LALOR, M.B., Ch.B. (Melbourne),  
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IN continuance of my report, relative to treatment in three cases of puerperal insanity, published in THE MEDICAL JOURNAL OF AUSTRALIA on November 15, 1924, I beg to report seven further cases. These would appear to emphasize the efficacy of the treatment that I recommended from the three points of view, namely:

(i.) Early treatment when the patient is admitted to a receiving house or mental hospital.

(ii.) The adoption of preventive treatment in patients who are known to have had puerperal mania and who had subsequently become pregnant.

(iii.) When toxæmia of pregnancy, such as hyperemesis or threatened eclampsia, are known or suspected to be likely to occur by the obstetrician, vaccine treatment (as described later) should be used from a prophylactic point of view, owing to the possibility that the condition of the patient might subsequently become one of puerperal mania.

CASE I.—N.O., aged twenty-eight years, was admitted to the Mental Hospital, Sunbury, Victoria, on April 30, 1925, in a stupor subsequent to being in a puerperal condition. She took no notice of her surroundings and would not reply to questions and was resistive. According to her history sheet she had been almost mute and disorientated in all spheres. Later on she seemed to improve on vaccine treatment, although she still spoke in a stereotyped manner and seemed dazed and confused. After the second course of vaccine treatment she did not improve very much, but her weight increased.

After the third course of vaccine treatment she became very much better and a month later was able to go out on trial leave and has not returned.

CASE II.—F.W., aged twenty years, admitted to this institution on December 11, 1924, was confused, irrelevant and wandering in her conversation. Her baby was then only three weeks old. She made mistakes in identity and was generally unreliable in her statements. She was put on a course of vaccine treatment and although still inclined to be flippant and impudent at times and dancing grotesquely about the airing court, she seemed to be very much improved. After a second course of vaccine treatment she was allowed to go out on trial and returned a month later. On the third course of vaccine treatment being given, she improved considerably, whilst on August 1, 1925, she went out on trial and has not since been readmitted.

CASE III.—M.J.D., aged thirty-five years, was admitted to this institution on March 26, 1925, suffering from puerperal mania. In this case I wish to emphasize the fact that she had been treated for some time previous to being admitted here in private asylums and the receiving house; the outlook consequently was not good, as her youngest baby was fifteen months. On admission she was put under vaccine treatment and there was no improvement for some considerable period, but gradually on the second course being administered she improved and developed more insight into her condition with less depression and self-accusation which were the main features of her mental condition. On October 24, 1925, she was quite well enough to go home, after having received a third course of vaccine treatment and has remained out since.

CASE IV.—M.S., aged twenty-four years, was admitted here on September 22, 1924. This patient was admitted in a resistive condition, refusing food and unable to carry on any connected conversation. Her language was obscene at times and at others she might not speak for long periods and when she did so, was irrational and incoherent. Later on she became catatonic and refused her food and ultimately had to be fed by the tube. A course of vaccine treatment was then started and after the first course she seemed to be improved, although she still had to be forcibly

fed. The attack is stated to have dated from the birth of a child in 1923. She had the idea that she was not married, that she had no name and she was quite lacking in insight. The second course of vaccine treatment was given with satisfactory results and she went out on trial on March 7, 1925, and is still out.

CASE V.—D.P.McD., aged twenty-four years, was admitted here on December 13, 1923. She was suffering from typical puerperal insanity. Lying in bed in a confusional condition, she was unable to answer questions except after a considerable time interval. Her memory was poor; later she became very resistive, aggressive, solitary and silent and on January 25, 1925, was started on vaccine treatment, but she was still resistive, disinclined to converse and took her food badly. The second course of vaccine treatment was subsequently given with good effect and on March 25, 1925, she was occupying herself well in the ward and was much better and brighter. On April 18, 1925, she went out on trial and has remained out since.

CASE VI.—I.S., aged twenty-six years, was admitted on January 17, 1925. The age of this patient's youngest child was four months and she was never well mentally from that period according to the statements of her relatives. She arrived four months after the birth of the child in a confused and agitated state, talking in an incoherent fashion, shouting out and struggling if anything was done for her and she seemed apprehensive of something happening to her. She was put on vaccine treatment three days after admission and after one course she improved greatly and within a month after her admission was fit to go out on trial and has not since returned.

CASE VII.—I.L.S., aged twenty-three years, was admitted on January 24, 1925, suffering from puerperal insanity. On admission she was mute and refused to answer questions. She stood in the one position all day, taking no interest in her surroundings. She was put on the first course of vaccine treatment and three weeks later seemed to improve somewhat, although she was still apathetic and inert, but spoke more rationally. After her second course of vaccine treatment a little later she seemed very much improved and commenced to occupy herself and interest herself in her surroundings. She was allowed out on trial with her mother on August 5, 1925, and has not returned.

This completes a course of ten cases in all of which treatment has been completely satisfactory. In some instances on account of the mental calibre of the patients the result might not have been expected to have been so.

I would again like to mention that in cases in which a toxæmia of pregnancy is suspected, this method of vaccine treatment should be adopted.

#### Details of Treatment.

Treatment has been carried out by means of a vaccine prepared by the Commonwealth Serum Laboratory. Two series of vaccine were used. Number I. series contained twenty million streptococci, twenty million *Bacilli coli communes* and one hundred and twenty million *Staphylococci aurei* in each 0.2 cubic centimetre. An initial dose of 0.3 cubic centimetre was given by hypodermic injection. In four days an increased dose of 0.6 cubic centimetre was given and so on at intervals until 1.5 cubic centimetre had been given in a dose. After an interval of a month if no result was obtained or if the result was insufficient, a second course of Number II. series was given. The vaccine of Number II. series was of the same composition as that of Number I. series, but was made up to twice the strength. The same doses and the same intervals were used in the second course as in the first.

## Reviews.

### DISEASES OF THE UPPER PART OF THE ALIMENTARY CANAL.

To most medical practitioners diseases of digestion are as great a trial as anything in medicine. There are uncertain conditions which are described glibly to patients



as gastritis, dyspepsia, hyperchlorhydria and it is no small thing to have a book which gives some solid basis for diagnosis and classification. Such a book is Dr. Izod Bennett's—and it is safe to say that there is no other book in English on this subject which contains so much valuable information within so small a compass.<sup>1</sup> The writer is now physician at the Middlesex Hospital. He began his work at Guy's Hospital mainly under the influence of Hurst and readers of Hurst's recently published book of essays will remember how frequently he quotes Izod Bennett in his chapters on gastric disturbance.

He writes with authority of what he has himself seen and done and this naturally gives much support to his otherwise somewhat dogmatic manner. He has no reverence for long established ideas, witness his attack on the tradition that "such a change (in the appearance of the tongue) is indicative of similar changes in other parts of the gut" or his challenge of the commonly held theory of a hormonal stimulus (gastrin) to gastric secretion. He is naturally an intense admirer of the work of Pavlov and Cannon, but Beaumont and St. Martin at least deserve a mention in the history of gastric investigation.

The book begins with the mouth and ends with the duodenum, pancreas and liver.

The author's critical and careful attitude is well shown in the discussion on dental sepsis. He is no fanatic, but he insists on accurate diagnosis, seldom possible without radiograms and on adequate treatment, not necessarily always by extraction.

A similar attitude is adopted with regard to tonsils and post nasal masses. He insists on complete enucleation of diseased tonsils which after all is as logical as the complete removal of a diseased appendix.

The chapter on the œsophagus is full, but not prolix and deals at length with its two most important diseases, achalasia and malignant disease. The former is excellently described with the help of a well reproduced radiogram (like the others in the book the work of Dr. R. W. A. Salmond) and the treatment either by loaded bougie or distensible olive as recommended by Plummer is sufficiently detailed. The section on œsophageal cancer is very complete and is made the more interesting from his advocacy of radium or radon (radium emanation) treatment. In a disease in regard to which other writers can only advise dilatation (for example Vinson and Moersch in the Collected Mayo Clinic Papers for 1924) or gastrostomy, to find "apparent cure over periods of four years" is almost a shock to anyone who has had anything to do with this painful condition.

It is, however, naturally in the section dealing with the stomach that Dr. Bennett is at his best. It occupies more than half the book. After a most entertaining discussion of the physiology he gives in detail a stimulating chapter on the examination of patients complaining of symptoms suggestive of possible gastro-intestinal disease. Note the phraseology.

Later he states that every day patients' conditions are diagnosed as "dyspepsia" and they are treated for this complaint "when in reality they are suffering from diseases and disorders as different and definite as mitral stenosis, pulmonary tuberculosis, duodenal ulcer, a drunken husband or an irritable mother-in-law."

Dr. Bennett would have the physician take the broadest possible view of the whole condition and is definitely against the idea of the gastro-enterological "specialist." So far as possible he would have the physician do his own tests and examinations. He holds that he should be present when radiological examinations are made or if not present, he should supply the radiologist or biochemist with all possible information as to what is suspected and the information that is especially desired. With this we heartily agree and there is no doubt that any doctor whose patient has had a bismuth meal, will benefit both himself and the patient by going over the skiagrams with the radiographer. Half an hour or less spent in this way

will give far more information than the most elaborate report by post with a pile of half-deciphered X ray films.

Dr. Bennett insists very strongly on the importance of the test-meal and gastric analysis. He favours the fractional method and gives a series of very cogent reasons for so doing. The description he gives is so clear and straightforward that any student or practitioner by following it would soon master the technique of gastric analysis.

In regard to actual gastric disease there are naturally two which occupy almost the whole of his space—peptic ulcer and carcinoma.

His account of the first is admirably clear. Diagnosis is discussed in all details—clinical examination, test-meal and opaque meal—and the whole are considered together, all are aids to the final diagnosis. In treatment he favours the original Sippy treatment, not the so-called modified Sippy treatment which often has little real resemblance to what Sippy described. His indications for surgical interference are summed up most admirably in a few paragraphs.

The danger of malignant degeneration in peptic ulcer he considers small.

Of gastric carcinoma he also has much to say and here again is his insistence on a complete examination by all possible methods. He insists on the very unsatisfactory accounts usually given of gastric analysis in this condition and from his own experience shows that gastric analysis is of the utmost value and the main factor in diagnosis. Of treatment he says little and that little is depressing. He has apparently seen benefit from deep X ray therapy, but only a temporary respite. He is, however, a keen advocate of alleviating the disease by surgical means, when there is any indication at all.

There follows a short chapter on "Disturbances of the Function of the Stomach," not very full, but simple and reassuring, closing with an admirable account (taken in part from the work of Mathieu and Roux) of acute dilatation of the stomach.

There is no separate chapter on "Gastric Neurosis," but a good account so far as it goes of "Aerophagy and Under Nutrition." Like Hurst he holds that there is no flatulent dyspepsia, all the gas in this condition being merely air swallowed by the patient.

The chapter on aerophagy and under nutrition is full of wisdom (a little impatient at times) and a better account of the clinical manifestations, the dangers and treatment of these two most common and most difficult states it would be hard to find.

There is, however, one curious omission—all the discussion is on the surface only—there is never a hint as to the actual basis of the condition, no need for treatment of anything but the symptoms. Thus in *anorexia nervosa* there is an admirable account of the patient's physical state and advice how to feed her, but no word at all of what caused the patient to refuse food. There is no word either as to why the aerophage swallows air, nor how patients are to be stopped from returning to their evil ways (as they so often do) once they leave the hands of the practitioner. This neglect of the nervous side of the patient is rather remarkable, especially when we consider how very insistent Dr. Bennett is upon this elsewhere, for example, in the nervous *versus* the hormonal means of pancreatic stimulation.

The chapter on physiology and diseases of the duodenum, liver and pancreas are well done, but are disappointing after the very high excellence of those on the stomach. Even so, hepatitis, gall stones, pancreatitis and malignant disease are discussed at length and an excellent summary of recent methods is given. This includes Lyon's method of gall bladder drainage which is considered very worthy of further application.

A most welcome criticism of Rosenow's bacteriological work is given and the attitude adopted is "not proven."

Although the book is one which no one beginning work on these difficult subjects can possibly afford to be without. Those who have been working long may disagree, but at least they will be forced to give reasons for their disagreement.

The book is well printed and is very easy reading.

<sup>1</sup>"The Stomach and Upper Alimentary Canal in Health and Disease," by T. Izod Bennett, M.D. (London), M.R.C.P.: 1925. London: William Heinemann (Medical Books), Limited. Demy 8vo, pp. 359. Price: 21s. net.

## The Medical Journal of Australia

SATURDAY, FEBRUARY 27, 1926.

### The Record of Disease.

THE FEDERAL COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION IN AUSTRALIA has referred the report of the Royal Commission on Health to the Branches of the Association for consideration before steps are taken to urge the authorities to translate the recommendations into action. The six Branches have an arduous task in prospect. The report contains many chapters. All are of the utmost importance to the people of Australia and all deserve the most careful consideration and analysis. It is to be hoped that the Branches will take this matter seriously and will devote sufficient time and energy to insure the adoption of the wisest course of action. The members have an opportunity of studying the report at their leisure. It was for this reason that we published it *in extenso* in our issue of January 16, 1926. It is proposed to discuss some of the subjects of the report in these columns in order to facilitate the work of the Branches. It must be understood that since the Branches and the Federal Committee have not yet arrived at any conclusions on the report, any expressions of opinion or recommendations on matters of policy are offered for consideration only. The Federal Committee has already passed resolutions concerning certain matters that are included in the report. It is assumed that these resolutions represent the policy of the British Medical Association in Australia.

The Royal Commissioners have opened their report with a short discussion on the amount and nature of ill-health in the Commonwealth. Their first and chief difficulty lay in the fact that with the exception of certain infective diseases no records exist of the incidence and mortality of the various pathological conditions affecting the people. It is a platitude to state that before any attempt can be made to control and prevent a disease, it is necessary to ascertain its extent, its location and its relation to external factors, such as environment, season, occupation and the like. Our health depart-

ments have been satisfied in the past to do without this information. Even in the case of the notifiable diseases there is reason to believe that adequate steps have not always been taken to enforce the notification in every instance. When plague or smallpox threaten the safety of the Commonwealth, energetic measures are adopted to collect information concerning every patient affected. The Australian Hookworm Campaign left no stone unturned in the search for each and every infestation. The information is available in regard to all diseases, but it cannot be collected by an officer in an arm chair. Some of the information has been handled and could be discovered in dust covered records filed in pigeon holes. The statistical data accumulated in this way has not been confined entirely to facts of hygienic importance. Not long ago a visiting expert who delved deeply into this repository of haphazard records, remarked that while the keeper of these records could ascertain from them how many blue eyed men fell off the rear end of a train on a wet Saturday, he had no evidence to show the incidence of pulmonary tuberculosis among tram conductors. The Royal Commissioners advocate the institution of standardized statistical investigations into the extent and character of morbidity in the Commonwealth by lending a medical officer of the Commonwealth Department of Health to the Commonwealth and State Statisticians and by compelling friendly societies, industrial and other bodies, hospitals and general medical practitioners to provide the information.

In order that the statistical data may be of use in attacking disease it is essential to insure uniformity, reliability and promptness. Whether or not the Royal Commissioners meant this when they chose the word "standardized" we cannot say. The only persons competent to determine the existence of a given disease are medical practitioners. The information is usually handed by medical practitioners to organizations such as the friendly societies, industrial firms and government departments in the form of certificates or returns. For statistical purposes it is desirable to know whether the diagnosis has been made as the result of a single examination or after prolonged clinical observation or whether it has been confirmed by biological tests

or histological examination. In the next place it is essential that there should be uniformity in terminology. It is common for medical practitioners to employ the term "croup" for a condition other than laryngeal diphtheria. Words that connote an undefined or undefinable condition should be excluded. At the present time few terms are more often used than "toxæmia," although with but few exceptions the toxin, if any, involved has not been identified. It seems, therefore, that the profession through its great representative organization should appoint a committee to examine the nomenclature of disease and to adopt a revised list with definitions for statistical use. If this were done, attention could be given to the grouping of pathological states according to known ætiological factors. We have called attention times without number in these columns to the impossibility of estimating the incidence or mortality of diseases of the cardio-vascular system because the Bertillon system of tabulation confuses in this respect. Cerebral hæmorrhage and cerebral embolism are included among the diseases of the nervous system in the Bertillon classification.

Hospital statistics are often quite valueless. They are at times compiled by an overworked resident registrar or superintendent or other medical officer or even by the matron. It should be possible to liberate a competent medical officer for a sufficient time to enable him or her to compile reliable and useful statistics. In all instances diagnoses confirmed by histological, chemical or biological evidence or by clinical evidence of an unassailable nature should be distinguished from unconfirmed diagnoses. Moreover, medical practitioners should be induced to indicate when a doubt concerning the diagnosis exists. At times an accurate diagnosis is impossible during life and even a *post mortem* examination may fail to reveal the true nature of the disease. Since the certificates for statistical purposes would be confidential documents, medical practitioners should be frank in the presence of doubt. Statistics are required to reveal the truth. Surely no stronger argument in favour of adopting the recommendation of the Royal Commissioners is needed. No pains should be spared in arriving as near to the truth as possible.

## Current Comment.

### THE MONOCYTES AND LYMPHOCYTES IN TUBERCULOSIS.

In last week's issue reference was made to work done by Dr. R. S. Cunningham, Dr. F. R. Sabin, Dr. S. Sugiyama and Dr. J. A. Kindwall on the rôle played by monocytes in tuberculosis. It will be remembered that they claimed that tuberculosis is a disease of the monocytes, that tuberculous infection inflicts primary damage on these cells and that they subsequently become nests to the infecting organism.

Another aspect touched on by these workers concerns the ratio of the monocytes to the lymphocytes and the correlation of this ratio with the cells of the tissues.<sup>1</sup> Ten rabbits were used for control purposes. From repeated blood counts made on these animals and on the other rabbits before they were submitted to injection it was determined that the average number of white blood cells in the normal rabbit is 11,281. The average normal percentage of monocytes in the series was eight and the lymphocytes represented 25%. The seventy-five rabbits in whom the intravenous injections of an emulsion of tubercle bacilli were carried out, fell into three groups. In the first group were animals in which shortly after the infection the monocytes increased so that the normal ratio of monocytes to lymphocytes was reversed and in which this ratio was maintained throughout the experiment. All these animals manifested a low resistance to the disease and on *post mortem* examination they were found to be affected by acute miliary tuberculosis or an infection of a more extreme grade. In the second group of animals this number of lymphocytes remained consistently in the vicinity of that of the monocytes, even though the latter was somewhat increased. At *post mortem* examination on these animals no microscopical evidence of tuberculosis was found or else a condition was discovered which was interpreted as characteristic of arrested tuberculosis. In other words the animals had a high resistance. In the third group, the largest of the three, it was found that the ratio between monocytes and lymphocytes was continually altering and at autopsy the condition found corresponded with the condition of the blood at the time of killing.

The most severe type of infection was that of a diffuse spreading mononucleosis in which infected monocytes increased in enormous numbers in the tissues with no reaction on the part of the tissues to wall them off into tubercles.

As a result of these findings Dr. Cunningham and his fellow workers conclude that in relatively acute tuberculosis the peripheral blood can give information concerning the progress of the disease and that this information is correlated quite accurately with the records of loss of weight and general loss of strength. Extremely large numbers of monocytes accompanied extensive mononucleosis in infected

<sup>1</sup> Bulletin of the Johns Hopkins Hospital, October, 1925.



tissues, moderately large numbers of monocytes accompanied acute miliary tuberculosis and less intense tissue mononucleosis. When the monocytes were within normal limits and below and when the lymphocytes were present in larger numbers than normal, arrest of the disease was noted.

Not only do these observers lay stress on the increase in the monocytes and the reversal of ratio of monocytes to lymphocytes, but they regard as no less significant the relationship of the increase in lymphocytes to the healing of tuberculosis. When tubercles are surrounded by masses of lymphocytes, this is evidence that healing is taking place. They hold that the study of the development of immunity to tuberculosis must include an extensive analysis of the lymphocytes and suggest that possibly measures already available for the stimulation of lymphocytes, such as certain doses of X rays, might be used with greater advantage when the ratio of lymphocytes to monocytes is already favourable.

The first thing that strikes the reader in connexion with this work is the importance of the deductions made from such a small number of observations. The workers themselves draw attention to the fact that one count a day is not sufficient for the determination of the normal number of leucocytes. Some of their number have shown that a rhythm characterized by considerable variation occurs in the white cells of human beings (see *THE MEDICAL JOURNAL OF AUSTRALIA*, November 28, 1925). The rhythm of the white cells of the rabbit has not been determined. It is quite possible that these rhythmical variations would have some influence on the figures, although it is hardly likely that the findings in general would be upset. The whole work brought forward by these investigators undoubtedly has potentialities for extensive development both from the clinical and pathogenetic aspects.

#### SCARLET FEVER.

THE prophylaxis and treatment of scarlet fever especially in epidemic form in small communities has been placed on a much more satisfactory basis as a result of the well known work of G. F. and G. H. Dick. Although it may not yet be certain whether the hæmolytic streptococcus is to be regarded definitely as the causative organism of scarlet fever, the susceptibility of a person to the disease can be determined by the Dick test, a large majority of persons can be immunized with the toxin and antitoxin from the hæmolytic streptococcus is a specific remedy. Recent work goes to show that like diphtheria scarlet fever is in the first instance a local infection of the nasopharynx and that the rash and constitutional symptoms are the result of the toxin produced at the site of the local infection.

In the control of scarlet fever in such small communities as institutions and schools difficulty frequently arises from the fact that the nasopharyngeal infection may be slight and of so transitory a

nature that it attracts no attention and produces no symptoms. Reference was made to this fact by Dr. T. Stacey Wilson in a recent discussion before the Royal Society of Medicine.<sup>1</sup> Dr. Wilson pointed out that desquamation may be the only sign of the disease. In these circumstances it may be useful to remember the work of Markovitch and Gueratovitch in regard to eosinophilia in scarlet fever and to the view expressed by Winterfeld and Hahne that eosinophilia and desquamation indicate scarlet fever.<sup>2</sup> In the presence of a rash of doubtful origin assistance may be obtained from application of the modification of the Schultz-Charlton blanching test by the use of intradermal injections of immunized horse serum.<sup>3</sup> Dr. Wilson claims that certain difficulties are associated with the recognition of scarlet fever desquamation. In the first place it may be slight and limited to small areas on the hands and feet. The friction of clothes is sufficient to remove all signs of desquamation. Desquamation is best seen on the outer and inner borders of the feet more especially at the junction of the thin skin with the thicker skin of the sole and between the toes. Desquamation may be seen in the latter locality in normal people, but the scarlatinal desquamation may be distinguished by the fact that it is a circular break in the skin and that fresh circles appear from day to day. Another point mentioned by Dr. Wilson is that prolonged soaking of the hands and feet such as is often required in children, is apt in certain instances to cause a progressive desquamation and certain children are constitutionally liable to a form of desquamation of the feet which may lead to confusion. It is remarkable how old teachings persist long after they have been discarded. Dr. Wilson is at great pains to emphasize the infectivity of desquamated skin and would base the requisite period of isolation of patients purely on the desquamative period. Every subsequent speaker at the meeting attacked Dr. Wilson on this point.

Dr. E. W. Goodall pointed out that ringed or pinhole desquamation, as described by Dr. Wilson, might occur after any erythema. He refused to diagnose scarlet fever from desquamation alone. In his opinion a patient is capable of spreading the infection as long as the infective agent remains active in the throat.

Scarlet fever caused fifty-five deaths in the Commonwealth of Australia in 1924. The case mortality is in the neighbourhood of 0.65% to 0.7%. The incidence is very much greater than the five or six thousand cases which are reported in Australia every year and the far reaching sequelæ have an effect which it would be difficult to estimate. So far no work has been recorded in Australia on the lines of the Dick research. In other countries discovery of the susceptible and their immunization has been accomplished. Why not in Australia?

<sup>1</sup> *Proceedings of the Royal Society of Medicine*, December, 1925.

<sup>2</sup> *THE MEDICAL JOURNAL OF AUSTRALIA*, April 25, 1925.

<sup>3</sup> *THE MEDICAL JOURNAL OF AUSTRALIA*, October 31, 1925.

## Abstracts from Current Medical Literature.

### SURGERY.

#### Treatment of Cancer.

G. W. CRILE (*New York State Journal of Medicine*, November 15, 1925) discusses the results of the surgical treatment of cancer and the relative merits of surgery and radiation therapy. He bases his opinions on the combined experience of his associates and himself in 4,108 cases of cancer, 3,414 of which were treated by surgery or by radiation or by a combination of both. Radium therapy is usually the most efficient method of treatment in cancer of the skin. An exception must be made in the treatment of pigmented moles; in these metastases occur at an early stage and they should always be excised. In carcinoma of the buccal surfaces metastasis rarely extends beyond the lymphatics of the neck. He recommends excision for tumours of the mucous membrane of the mouth; for early cancer of the tongue he recommends electric coagulation or the actual cautery and for early cancer of the lip radium. He holds that late cancer of the lip and tongue should be treated by excision together with block dissection of the glands.

For carcinoma intrinsic to the larynx he advises laryngectomy together with postoperative radiation. If extrinsic carcinoma of the larynx is operable, he uses block dissection together with radiation, if it is inoperable he performs tracheotomy and employs radiation. Carcinoma of the thyroid in 95% of cases was due to degeneration of a fetal adenoma; for this he recommends thyroidectomy together with radiation, if the tumour is operable and decompression with radiation if it is inoperable. He advocates prevention by the prophylactic excision of all fetal adenomata. Carcinoma of the œsophagus is one of the most hopeless amongst malignant conditions and radium and deep therapy present the only hope for relief. These must when necessary be supplemented by the performance of gastrostomy. In carcinoma of the breast early radical operation is the only method to be employed and except in manifestly inoperable cases the patient should be given the benefit of the doubt and be submitted to operation. Carcinoma of the stomach is generally characterized by rapidity of the growth; resection should be performed in early cases and if the tumour is inoperable, gastro-enterostomy should be performed in order to relieve symptoms. In carcinoma of the intestines, sigmoid and rectum radiation has been of little avail and the author recommends colostomy and radical operation if the tumour is operable and colostomy with radiation if it is inoperable. He admits that a wide diversity of opinion exists in regard to cancer of the uterus; when the fundus is involved he prefers radical operation

and for carcinoma of the cervix he advises radiation. For cancer of the genito-urinary tract reliance must still be placed mainly upon surgical treatment followed in selected cases by radiation. Deep X ray therapy will reduce the size of some carcinomata of the kidney in children, but this must be followed later by operation.

#### Lumbar Puncture in Cranial Injuries.

DONALD MUNRO (*Boston Medical and Surgical Journal*, December 24, 1925) discusses the therapeutic value of lumbar puncture in the treatment of cranial and intracranial injury. He compares the results following decompression operation with those following repeated lumbar puncture in the same hospital. The immediate mortality following all types of head injury during a period of twelve months was lower among patients treated by lumbar puncture than among those treated by any other method. The greatest difference in the comparative groups is 12% and the smallest 4%. Ninety-six lumbar punctures were successfully performed in sixty cases. Autopsies in all but one of the fatal cases revealed that lumbar puncture had no relation to the cause of death. Records were kept of the intracranial pressure in cases of lumbar puncture; the average in the fatal cases was nearly two and a half times higher than that found in patients who recovered. No matter what method of treatment is used, the prognosis is worst in contusion of the brain complicated by fracture of any part of the skull.

#### Arthroplasty.

MELVIN S. HENDERSON (*Surgery, Gynecology and Obstetrics*, January, 1926) holds that the mobilization of ankylosed joints by arthroplasty is one of the problems that confronts modern surgeons. The surgical difficulties of the technique and the tedious after treatment have caused the gravitation of patients suffering from ankylosis of joints into the hands of orthopaedic surgeons. Large series of cases are reported in which as many as 80% of the results of arthroplasty were satisfactory. Operations on the jaw gave the best results, the elbow the next, the knee next and the hip gave the poorest results. Certain fundamental principles can be deduced. The destructive arthritis following infection or trauma must be quiescent and pain, tenderness, swelling and local heat must be absent before operation. Tuberculous joints must not be interfered with for fear of a flare-up. Means must be taken to prevent union of the newly made surfaces and in all except the jaw interposition of a piece of tissue, preferably autogenous, is necessary. The technique varies with the type of joint to be reconstructed. In the case of the jaw mere excision gives excellent results. Excision is satisfactory in the upper extremities, but not in the lower where stability is so im-

portant. Splinting and extension have their place. Mobilization must be started as soon as the blood clot is organized. Active and passive movement must be gradually forced to the limit and physiotherapy is consistently carried out. The patient's occupation and temperament must be studied.

#### Renal Neoplasm.

A. HYMAN (*Surgery, Gynecology and Obstetrics*, September, 1925) reviews seventy cases of renal neoplasm seen in patients at the Mount Sinai Hospital, New York. He tried to determine whether the early onset of initial symptoms is indicative of an early lesion, whether involvement of the renal vein is an early or late phenomenon and what influence its occurrence has on the prognosis. The author concludes that kidney tumours are as a rule extremely malignant and that early diagnosis by the methods at present available is a matter of some difficulty. The pathological findings after so called early operation are not always those characteristic of an early stage of the disease. In the course of examination great importance must be attached to the pyelographic findings. Whereas early diagnosis does not necessarily indicate a favourable prognosis, extension into the vein does not render the outlook hopeless. The ultimate mortality lies between 65% and 75% and the only way to effect a reduction would be to make use of the cystoscope and undertake pyelography not only in the case of every patient suffering from hæmaturia, but in that of every patient suffering from lumbar pain, intractable sciatica and lumbago for which no definite cause can be found.

#### Blood Transfusion.

EDWARD A. HERR (*Boston Medical and Surgical Journal*, October 15, 1925) discusses the subject of blood transfusion. He holds that the many indications for the procedure are continually increasing. Blood transfusion is imperative in all cases of hæmorrhage especially if the hæmoglobin value is 20%. It is indicated when the hæmoglobin value remains for any considerable time between 20% and 30%. By the use of blood transfusion before a serious operation a hazardous risk can be transformed into a safe procedure. In surgical or postoperative shock it is a valuable line of defence. In puerperal infection transfusion of whole blood diluted with Ringer's solution is the most suitable treatment. In the arrest of hæmorrhage transfusion will succeed when all other coagulants have failed. In malnutrition of infancy and in pernicious anaemia of adolescence it is indicated as well as in hopeless cases of nephritis, enteric fever and pneumonia. Further work with a microsedimentation test may help to explain the occurrence of the para group not explained by the Moss method of grouping. On the whole it



is claimed that properly used transfusion will effect a reduction not only in the risk at operation, but also in the mortality in both medical and surgical fields.

#### Management of Head Injuries.

WILFRED TROTTER (*The Lancet*, November 7, 1925) deals with the surgery of head injuries more especially from the aspect of treatment. The method of regarding the symptoms of intracranial traumatic conditions under the headings "irritative" or "paralytic" is confusing. The word irritative suggests a pathological state, but none exists, therefore it is urged that the term subparalytic should be introduced in its stead. For the uses of practice surgeons should learn to regard paralytic symptoms as conclusive evidence of hæmorrhage and also of localization. Definite local hæmorrhage is a comparatively rare event even among the graver head injuries. The essential damage always tends to be of the nature of contusion-laceration, while hæmorrhage is an occasional complication due to the incidental tearing of a vessel. Hence, though hæmorrhage is the cause of paralytic symptoms, it also is associated with the subparalytic syndrome. It is possible to get a rough grouping of the clinical states resulting from head injuries: first, intracranial hæmorrhage superimposed upon contusion-laceration; second, severe contusion-laceration without recognizable hæmorrhage and third, mild contusion-laceration. Conditions in the second group contribute the great bulk of clinical material met with in civic practice. They give rise to no focal signs and patients affected by them are often not regarded as suitable for operation. The conditions may be rapidly fatal; otherwise the illness is long, the convalescence longer and there is left a residue of disabling sequelæ. The classical picture of intracranial hæmorrhage is familiar to all, but every effort should be made to recognize the condition in its earlier states and in the aberrant forms. Urgency of operation is to be commended, but in those rapidly spreading lesions capable of producing paralytic symptoms in a few hours surgery cannot help and the result is invariably fatal. Patients capable of recovery have a margin of safety of only a few hours and it is doubtful whether operation within twenty-four hours makes much difference. In grave head injury there is almost always some contusion of the pons and medulla and this seriously increases the danger of the condition and is a strong reason against any but indispensable operation. In the serious contusion-laceration syndrome the inability of the brain to undergo adequate compensatory swelling is the cause of the symptoms, hence the rational treatment is obviously to do a decompression operation in order to allow the swelling to occur. Experience confirms this view. Surgical treatment should be advised when at the end of the first week serious

mental changes are present such as profound drowsiness, inertia, delirium or mania and seem to be fairly stationary. In very serious cases decompression may be called for earlier and there is then no object in delay. The operation to be done is the making of a fair sized decompressive opening low down in the right temporal fossa and it may be necessary to make a bilateral opening to give adequate relief. In such cases there are probably hæmorrhages that have escaped diagnosis. Mild contusion and laceration are very important, occur very commonly and are the cause of persistent and distressing symptoms. The symptoms are manifestations of disturbed intracranial tension. The cardinal feature is headache, though there may be giddiness, slight changes in disposition and minor mental and physical disabilities. Headache is so predominant, however, that the cases are usually referred to under the term of contusion-headache. This usually declares itself within a few weeks of the accident, often whether the patient has rested after the accident or not. The headache often occurs in attacks many hours in duration, brought on by excitement, fatigue and undue exertion. The headache may be of extreme severity and is of a throbbing, bursting character. It makes the patient intolerant, irritable and even dangerous. It is relieved by rest in bed in quiet and darkness, especially if sleep occurs. A complete absence of focal and classical signs of cerebral injury is usual in cases of contusion headache. Treatment of confusion headache can be undertaken with every reasonable confidence of a satisfactory result. A sound knowledge of the probable pathology of the bruised brain and its swelling with circulatory disturbances is very necessary. The disturbances on the venous side are by far the most effective in adding to the already raised intracranial pressure. Thus it is that rest in bed is the foundation of treatment of cerebral contusion. Prolonged rest in bed is the best and indispensable prophylactic against the development of sequelæ. Three or four weeks in bed may be necessary in severe cases. Relieving the increased tension by acting on the cerebro-spinal fluid is an important measure of treatment. Lumbar puncture is most valuable in its place and without doubt gives wonderful relief. Hypertonic solutions of magnesium sulphate administered by preference in the form of an enema of one hundred grammes of the salt in two hundred cubic centimetres of normal saline solution daily or even twice daily, constitute a good method of relieving increased intracranial pressure. A most important simple method is to make use of posture in influencing the venous return from the skull. The sitting posture is of great value. It is considered that the last named procedure is of paramount importance. Next in value is prolonged rest in bed, then lumbar puncture and the exhibition of hyper-

tonic saline solution. That typical contusion headache will be arrested by an adequate decompression is one of the most trustworthy generalizations in surgery.

#### Acute Suppurative Appendicitis.

W. A. LINCOLN (*Canadian Medical Association Journal*, December, 1925) deals with recent trend of opinion and statistical information in the subject of acute suppurative appendicitis. The rise in importance of appendicitis as a pathological condition is shown by the considerable and if anything increasing mortality rate in Canada. The greatest emphasis must be placed on the necessity of operating before rupture takes place. Once rupture occurs the risk increases enormously and the time at which rupture happens, cannot be foretold. There is no evidence to indicate that it is safer to wait during any stage of the disease. Operation must be performed quickly and with as little manipulation as possible. Localized abscess should be drained without traumatism or breaking down of adhesions. No effort should be made to remove the appendix unless it can be done with the greatest care. The Oschner treatment should be used after the operation in most cases and this consists in placing the patient in the Fowler position, giving saline solution by the rectum and in giving morphine. After a few days if paralysis of the bowel is obvious, treatment is changed to energetic measures by giving pituitrin, gastric lavage, purgatives and enemata. The public should be educated to understand that any abdominal pain is to be taken seriously and a purgative taken only after medical advice.

#### The Healing of Arteries after Ligation.

J. S. HORSLEY, JUNIOR (*The Journal of the American Medical Association*, October 17, 1925) has investigated the healing of arteries with the primary object of finding the best method of ligating a large artery so as to produce permanent occlusion. He quotes five instances in which the arterial channel has been reestablished after ligation. He carried out a series of eighty ligations on dogs and used plain and tanned catgut, silk and linen. When an artery is tied in continuity the *tunica intima* and part of the *media* are ruptured and the *adventitia* is compressed. Thrombi form, these are larger when the vessel has been crushed. An exudate forms round the ligature. Leucocytic invasion occurs. The ligature may loosen or cut through. If it cuts through, the two ends of the vessel separate. Granulation tissue forms. New blood vessels arise, these penetrate the thrombi and may restore the occluded lumen. In large vessels it is best to apply three ligatures and divide the vessel between the two distal ligatures. The proximal ligature then bears the impulse of the heart beat and the part grasped by the distal ligature can heal at rest.



## British Medical Association News.

### SCIENTIFIC.

A MEETING OF THE SECTION OF OBSTETRICS AND GYNÆCOLOGY OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on September 2, 1925.

#### Cæsarean Section.

DR. H. C. E. DONOVAN read a paper entitled: "Indications for Cæsarean Section" (see page 232).

PROFESSOR J. C. WINDEYER thanked Dr. Donovan for bringing forward the subject of Cæsarean section. He disagreed with some of the later indications, such as when vaginal infection was already present. Many such patients were able to be delivered without any trouble. He considered, therefore, that operation was inadvisable and carried more risk, except in cancer of cervix when it was impossible to deliver.

As regards Munro Kerr's method of estimating the amount of overlapping of the head, one disadvantage of this was that a vaginal examination had to be done and in Cæsarean section this should be avoided. He preferred to estimate the disproportion by external manipulation alone. His method was to hold the head on the brim by one hand and to palpate along the brim with the other hand. In most cases the disproportion could be estimated by this method.

He was glad that eclampsia was considered as a contra-indication as he had always been of the same opinion and had never done the operation for this condition unless other indications were present. He had done vaginal Cæsarean section for eclampsia occasionally, but not for some years. He considered that Dr. Donovan had put the case for Cæsarean section very well and had conveyed much information in a short space.

DR. I. COGHELAN referred to indications for symphysiotomy and pubiotomy in preference to Cæsarean section in some instances. He had seen pubiotomy done in Dublin and Vienna after a trial of labour with slight after effects, the patients being up on the tenth day. In regard to *placenta prævia* conservative methods had been adopted in Dublin till 1923. Statistics prior to this had been good, but within two months six cases of *placenta prævia* had occurred, four in *primipara*, two in *multipara*. With conservative methods the four *primipara* had died, so it had been decided to adopt Cæsarean section after this. One other patient treated by section had recovered. He thought that Cæsarean section was indicated with some elderly *primipara* or in elderly women with a history of several fetal deaths.

DR. R. I. FURBER, D.S.O., agreed with Professor Windeyer that external palpation was sufficient for the estimation of any disproportion between head and pelvis. With the patient half sitting up he found that the head could be pushed into the pelvis with greater ease. He had tried and disliked the low Cæsarean section. He disagreed that eclampsia was a contra-indication. He had tried venesection, veratrine and so forth and all the patients had died. He felt that in a *primipara* not in labour eclampsia was an absolute indication. He thought he had done the first Cæsarean section for eclampsia in a *primipara* in Australia. The patient had not been in labour and had had seven fits. He had done twenty sections with one death and in this patient the fits had persisted. She had had one hundred and ten fits. In all the others there had been no morbidity. Nearly 100% of the infants had been saved. One child had died, but twins had restored the balance.

DR. CONSTANCE D'ARCY said she was not very keen on pubiotomy, as she had seen several patients with pain in the sacro-iliac joints as an after effect. It had almost crippled some of the patients. She referred to a case in which she had done intraperitoneal Cæsarean section with happy results. This was a case of a young woman, aged twenty, who had lost one child. She had been in labour

twenty-four hours. The pelvis had not been greatly contracted, but she had a large child and the cervix and vagina had been lacerated in an attempt to deliver in a small home. When she saw the patient she had decided to perform an extraperitoneal section. She had experienced slight difficulty when separating the peritoneum from the bladder in avoiding entry into the peritoneum. A living child had been obtained. She had inserted a rubber drain for twenty-four hours. Ten days after the operation the patient's condition had been excellent and she had gone out of hospital well with the uterus in good position and no disability. Dr. D'Arcy was of the opinion that this operation was very useful in certain selected cases and she would choose it in preference to pubiotomy. She had a horror of Cæsarean section when gonorrhœa was present without a contracted pelvis; the scars suppurated and many adhesions were left.

In eclampsia she had done two sections with 100% recovery, but thought that treatment in the majority of cases should be medical. In a few neglected cases section might be indicated, but antenatal treatment should diminish the indications.

Dr. D'Arcy had had happy results with section in *placenta prævia*, but had no rough rule, as she had many living mothers and children with conservative methods. She referred to the bad results sometimes following operations of ventrosuspension and trachelorrhaphy requiring section.

She thanked Dr. Donovan for the many points he had brought forward.

DR. R. WORRALL thanked Dr. Donovan for his fine paper. Referring to section after the operation of ventrosuspension, he said that if sepsis followed on any operation, dystocia was liable to result. He had seen dystocia follow shortening of the round ligaments just as often. He still performed ventrosuspension and would be grateful if any one would inform him of any case of dystocia occurring in a patient upon whom he had done a ventrosuspension. He thought antenatal care would diminish the need for some Cæsarean sections. He held gonorrhœa to be a contra-indication. He had delivered several patients with breech presentations with the forceps in spite of Herman's dictum that forceps were designed for the head. In cases earlier in pregnancy he favoured vaginal hysterotomy, as there was less disturbance than with abdominal section. In the presence of sepsis after a trial of delivery and many examinations he considered Cæsarean section with hysterectomy preferable to extraperitoneal Cæsarean section. He considered infection of the pelvic cellular tissue more liable to cause trouble than infection of peritoneal surfaces. He preferred the high abdominal section. He was in favour of section for eclampsia, though he had never done one for this. He considered that antenatal prevention was of great value and although in favour of section, he did not deprecate medical treatment.

As regards cases of hæmorrhage if the patient was in labour, he advocated puncture of the membranes; if not in labour, bipolar version. His experience was that in many of these cases the child was sacrificed.

DR. J. MORTON congratulated Dr. Donovan on his paper. He referred to the risk of rupture of the uterus in after pregnancies. Formerly he thought the idea had been exaggerated, but in fifty-three cases of which he had had experience, two patients had died from rupture of uterus. He thought that waiting for some dilatation of the cervix was good. Trouble afterwards was saved if there was good dilatation and there was a tendency to sepsis if dilatation was not present.

Regarding eclampsia he was in sympathy with Dr. Worrall and Dr. Furber. He had done several Cæsarean sections on eclamptic patients at full term and he considered that in serious cases it was the quickest and best treatment. The only trouble was the anæsthetic, if it was possible to dispense with this, the results would be better, though he had seen dramatic results in many cases.

He disapproved of Cæsarean section for *placenta prævia*. He thought this condition was best treated by the bag properly used in any case.

He thought recto-vaginal fistula was not an indication, he had seen normal delivery in several such cases. He thought the danger of opening through the peritoneum was not as great as the danger of infecting the uterine sinuses, lymphatics and the cellular tissue. He had seen one case of ventrofixation recently in which there was no chance of delivery except by Cæsarean section.

DR. E. LUDOWICI regarded antenatal examination for any disproportion as very important. He preferred external manipulation alone and did not think vaginal examination was necessary. He had read of the half sitting up position, referred to by Dr. Furber, a long time before and found it very useful. His experience of patients with vaginal infections was that labour was normal and in the puerperium in a few cases there might be some mild infection. *Placenta prævia* might be diagnosed in a *primipara* with a cervix not dilated and when bleeding had been slight. If the patient was not in labour he thought a section was indicated as the placenta prevented the proper descent of the head.

"Once a Cæsarean" did not necessarily mean "always a Cæsarean." Each case should be judged on its merits; many patients could be left alone; there should not be disasters. He congratulated Dr. Donovan on his interesting paper.

DR. H. A. RIDLER congratulated Dr. Donovan on his conservative opinions about eclampsia. He had not seen many patients with eclampsia who required section. In *placenta prævia* he thought the best results were obtained by using a bag, though even by this many babies were lost. Section was frequently followed by troublesome after effects due to adhesions.

He thought careful consideration was required before doing a section in breech presentations. He had been impressed with the good results obtained among the district patients of the Royal Hospital for Women as compared with the ward patients. He attributed the difference to the district patients being delivered by an experienced sister, whereas the inpatients were often delivered by inexperienced students and nurses and resident medical officers. He thought that students required more teaching about the management of breech presentations.

DR. A. J. GIBSON added his thanks and congratulations for the excellent paper. He thought that every *primipara* should have a test of labour before a section was done. He personally had great difficulty in deciding in many cases before labour had started whether the disproportion was too great to allow delivery to occur naturally. He had seen many cases in which section had been advised and preparations had been made and in which spontaneous delivery had occurred. He had also seen patients submitted to section for a first baby and the second child had been born naturally without much trouble.

He agreed with conservative treatment in eclampsia, unless other indications were present. He held that section was indicated in certain cases of *placenta prævia*, such as central *placenta prævia* where the condition of the mother and child was such that both had reasonable chances of surviving. He had performed Cæsarean section on his last three patients with central *placenta prævia*. All the mothers had recovered and two children lived.

He thought that repeated hæmorrhages contraindicated section. He thought that section was the best treatment in certain elderly *primipara* in whom the cervix was rigid and slow in dilating.

DR. FOURNESS BARRINGTON added his thanks and said that owing to the lower mortality by recent methods there was a tendency to overdo the operation. The indications should be obstetrical and not surgical. They were too apt to forget the adaptability of Nature.

He held emphatically that eclampsia should be treated by conservative methods. He had done only one Cæsarean section for eclampsia in forty years. This was a case of a postmature *primigravida* with a rigid cervix and a child weighing 4.4 kilograms (nine and three-quarter pounds). He agreed that the foetal head was the best pelvimeter and a test of labour, especially in a first labour which was a trial trip.

He thought that Cæsarean section had a certain sphere in *placenta prævia*. The ideal cases were the central variety, when the patient was near term, when the child was large and when hæmorrhage had occurred. He thought a bag was dangerous in the central variety. He favoured prophylactic induction in patients past term. He had had to do four Cæsarean sections for postmature children weighing 4.5, 4.5, 4.9 and 5.2 kilograms (ten and a half, ten and a half, eleven and eleven and a half pounds respectively). One patient had had to have two Cæsarean sections for postmaturity. He thought ventrofixation was an awful operation. He had had to do Cæsarean section three times subsequent to ventrofixation.

DR. DONOVAN in his reply said he appreciated the remarks of the various speakers and was grateful for them. In vaginal infections he did not think that gonorrhœa *per se* was an indication for Cæsarean section, but he thought that in staphylococcal or streptococcal infections there was a danger if trauma occurred and the lochia became infected and to avoid this he had considered section. In estimating overlapping at the brim he sometimes used external methods only, but he thought Munro Kerr's method more valuable, though he agreed that *per vaginam* examinations carried some danger. He was glad to hear the experience in regard to pubiotomy and that so little disability resulted.

In *placenta prævia* he thought the ideal treatment was to plug, rupture the membranes in the marginal variety and to do external version and bring down a foot. He had not tried the half sitting position recommended by Dr. Furber, but would do so. In eclampsia he favoured conservative treatment.

In reply to Dr. D'Arcy he said he was more in favour of pubiotomy in potentially infected patients when an extra half inch would be sufficient as he feared possible infection of the cellular tissue in the extraperitoneal Cæsarean operation. He realized he was asking for criticism in suggesting section in breech cases, but it was only when external version had failed in *primipara* with narrow soft passages. He agreed with Dr. Ridler's statistics.

If ventrosuspension was performed by suspension of the lower uterine segment by peritoneal attachment only, he thought the operation was free from danger. He thought that a sharp distinction must be drawn between that operation and the old one of fixation of the fundus.

He agreed with Dr. Worrall that if section had to be done in septic cases hysterectomy should follow.

He agreed with Dr. Ludowici that antenatal examination was most important and that "once a Cæsarean always a Cæsarean" was not a fact, as each case had to be treated on its merits.

He agreed with Dr. Gibson in the difficulty of deciding in the presence of small pelvis with moderate degrees of contraction and favoured a trial labour in such. He agreed with Dr. Barrington that there was a tendency to overdo Cæsarean section. He thought that prophylactic induction of labour was indicated in cases of postmaturity, but not in cases of disproportion, as it was unsatisfactory and added to the risk. He thought that the possibility of rupture of the uterus in subsequent pregnancies mentioned by Dr. Morton should always be borne in mind.

#### Intrauterine Transplantation of the Ovary.

DR. R. P. B. MONSON read a paper entitled: "Intrauterine Transplantation of the Ovary and its Clinical Significance" (see page 229).

DR. R. WORRALL thought the reader of the paper was deserving of thanks and not to be condemned, though it did not commend itself to him at first sight. He thought the ovary would function better in its normal position as the function was often not good in transplanted ovaries. He would be glad to hear any further results.

DR. E. LUDOWICI thought the paper contained good suggestions. The indication for the operation was to promote pregnancy where otherwise this could not occur. He thought the site of implantation was important.

Dr. H. C. E. DONOVAN thanked Dr. Monson and said he was glad to see that some purely experimental work was being done. Most contributions were clinical and advances could only be made by scientific investigations being checked by clinical observations.

It was of value from the possibility of pregnancy occurring, but for conserving the internal secretion better results would be obtained from leaving it in the normal position. If successful in enabling women to bear children who otherwise would not, it would open up a field of usefulness.

Dr. J. MORTON said the experimental work was very interesting, but the operation was inadvisable till more proof was adduced. Therefore, he would hesitate to put it into practice. Experience of foreign bodies in the uterus was not favourable to such a procedure and he thought it was doomed to sink into oblivion.

Dr. I. COGHLAN was interested in the results. Patients with submucous fibroids got pain at the menstrual periods and any foreign body might cause this and he would like to know whether any dysmenorrhœa occurred in patients if menstruation took place. He thought that after all it was best for the patient to be in comfort.

Dr. B. HITTMAN congratulated Dr. Monson. He thought the subject was very fascinating and the result encouraging. Tuffier in his latest results had had one case of gangrene of the ovary; a second patient had had to submit to hysterectomy; a third patient had extruded the ovary as a foreign body and only one pregnancy had resulted. Other observers had reported four cases of pregnancy out of one hundred cases done, only twenty-seven of these had been traced. He recommended that section of the ovary should be through the cortex. Morris, of New York, had transplanted an ovary of another woman into the broad ligament and the patient had become pregnant.

Dr. F. BARRINGTON hoped Dr. Monson would continue his work in bigger uteri. Infection in the uterine cavity was a cause of difficulty. He referred to a case of Cirvoin's in which both ovaries had been removed and transplanted.

Dr. MONSON in his reply thanked the speakers and expressed disappointment that he had been forestalled by Tuffier. The operation was only indicated to produce pregnancy. Hartman's reputation was so high that his result must be listened to. He said that several patients reported had suffered from painful menstruation.

#### MEDICO-POLITICAL.

THE ANNUAL CONFERENCE OF THE VICTORIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held in the Medical Society Hall on November 17 and 18, 1925. Dr. H. DOUGLAS STEPHENS the VICE-PRESIDENT, in the chair.

#### Bush Nursing.

Dr. B. T. ZWAR presented a statement prepared by a sub-committee of the Council, appointed for the purpose of reporting to the Conference on the position of the bush nurse in relationship to the medical profession.

On an occasion about two years ago (September 20, 1923), Sir James Barrett, in his official capacity of Honorary Secretary of the Bush Nursing Association, addressed the Council of the Victorian Branch of the British Medical Association. Sir James then referred, *inter alia*, to the growth of the bush nursing organization, pointing out that the movement was getting too big for any one man to handle. He asked for the wholehearted support of the medical profession in guiding the bush nursing movement.

In this spirit the subcommittee of the Council appointed to report regarding the present position of the bush nurse in relation to the medical profession, desires to submit for consideration and discussion a principle involved in the local administration of the bush nursing movement.

This is the principle which allows of the indiscriminate and unrestricted use of the privileges of the bush nursing organization in other than emergency cases. In a meeting such as this it is hardly necessary to remind you of the attitude of the Victorian Branch of the British Medical Association to anything affecting the health of the community. The whole code of ethics and the principles of this body have in view the establishment or retention of such conditions as will best serve the interest of the community.

Briefly outlined the principles involved are:

1. For the prevention and treatment of disease in any section of the community a full medical service is desirable. Anything which interferes with the establishment, retention or efficiency of such a service is not truly in the interests of the community.

2. For the efficient functioning of such a service, the proper relationship of the nursing section to the medical section is essential. Again, anything which interferes with or disturbs such relationship, is likely to prove disadvantageous to the best interests of the community. In other words disharmony between the nursing and medical services is definitely not in the best interests of the community.

3. Pertaining to the administration of medical or nursing relief or indeed any other form of relief, the medical profession is opposed to the participation in such relief by those for whom there is available an equally or even more efficient service for which they are in a position to pay. Such an attitude is definitely in the interests of the community, for it enables the establishment and retention of proper conditions and it guards against the demoralizing effect of the seeking or accepting of relief or doles by those who are in a position to secure medical, nursing or other attention in the ordinary recognized way.

Now, it is a matter of experience and the opinion of the subcommittee that the underlying reason for various complaints that have come to hand results from the unrestricted admittance to the privileges of the bush nursing movement of those who should provide for such services in the ordinary way. It has proved and is likely to prove a disturbing factor of the principles enunciated.

Your subcommittee trusts that some efficient means will be found to safeguard against the possibility of such causes of disturbance or disharmony.

Dr. Zwar moved that the report and the principles enunciated therein be adopted and referred to the Council.

SIR JAMES BARRETT, K.B.E., C.B., C.M.G., in seconding the motion, said that he felt certain that the Council of the Bush Nursing Association would agree to the general principle embodied in the report presented by Dr. Zwar. He feared that the prevailing shortage of double and triple certificated nurses was the chief difficulty in carrying it into effect. That no nursing service could function efficiently without the cooperation of the medical profession was a matter on which there could be only one opinion. The resolution of the last Conference that medical practitioners should be urged to join the local councils of the Bush Nursing Association had been most helpful. Since that resolution had been made effective, there had been only one instance of discord and in that centre the medical man had declined to join the local committee. There were now fifty bush nursing centres in operation.

Dr. G. E. COLE said that medical men in the vicinity of Hamilton viewed the bush nursing centres favourably and generally found that no difficulties arose.

Dr. R. G. MCPHEE said that many people who could afford to pay for trained nurses, took advantage of the proximity of a bush nurse to arrange for service, especially in midwifery. They seemed to regard their subscription of one pound *per annum* to the Bush Nursing Association as entitling them to such service.

Dr. B. MILNE SUTHERLAND expressed himself as in agreement with the report. Sir James Barrett was very anxious to conduct the bush nursing centres in accordance with the ideas of the Council of the Victorian Branch. It had



often been necessary to write to country centres and ask for first hand information from medical men regarding complaints. The desired information was not always forthcoming and he thought it was because medical men often incurred hostility in the district by complaining of the bush nurse. In order to obviate this difficulty Sir James Barrett had urged medical practitioners to join the local councils of the Bush Nursing Association. If country practitioners experienced any trouble on account of improper activities on the part of the bush nurse, they should write to the Council of the Branch, which body would then bring the matter under the notice of the Bush Nursing Council through Sir James Barrett.

SIR JAMES BARRETT said that all such communications were treated as strictly confidential.

DR. A. R. THORNE said that there was reason to think that bush nurses often treated illness apart from any medical supervision or instruction.

SIR JAMES BARRETT replied that the first rule of the Bush Nursing Association was to the effect that the nurse should work only under the direction of a doctor except in trivial cases and in normal midwifery.

The motion for the adoption of the report was carried unanimously.

#### Cottage Hospitals.

SIR JAMES BARRETT outlined the aims and organization of the bush nursing cottage hospital movement. There were five such cottage hospitals. These were established in small country centres, were managed by local committees and staffed by nurses of the Bush Nursing Association. The staff generally consisted of two nurses and one domestic; the hospital fees were moderate. The patients were treated by medical practitioners who made their own arrangements regarding fees. The cottage hospitals were in effect intermediate hospitals. The fifth such hospital to be established had recently been opened at Skipton and a sixth was in process of formation at Yackandandah. The medical men utilizing the hospitals incurred no financial obligations with regard to them. In the case of each cottage hospital so far established the Edward Wilson Trustees had provided a sum of £200 which had been expended under the direction of the local medical practitioner. Should such hospitals multiply, all complaints about nurses working apart from medical supervision would automatically cease. Sir James Barrett also forecast a scheme for a network of ambulances which he anticipated would go far to solve the difficulties of country practice.

In reply to DR. STEWART HECKER (Murrayville), Sir James Barrett said that the cottage hospitals were not charities and were not registered by the Charities Board. They were, however, registered under the Board of Health.

DR. A. R. THORPE said that it had been his intention to submit a scheme for community hospitals at a later stage of the Conference. He thought that it was highly desirable that a system of community hospitals should be established in smaller country centres. The essential features of such hospitals should be the admission of all patients on a doctor's certificate, irrespective of the financial position of the patient and provision that the fixing of medical fees should be a matter of arrangement between the private medical attendant and the patient.

DR. STEWART HECKER supported Dr. Thorne's proposal. He explained in some detail the system in operation in South Australia at the hospital at Pinaroo. The institution there was maintained by money collected locally, to which were added the proceeds of a small municipal rate and a subsidy by the Government of South Australia. Control was in the hands of a local committee elected by the subscribers, one pound *per annum* being the minimum subscription.

DR. D. D. ROSENBERG moved and DR. A. R. THORNE seconded:

That this Conference request the Council to adopt in its hospital policy a scheme for the provision of community hospitals in small country centres, with suggestions regarding management and control.

SIR JAMES BARRETT pointed out that in Victoria the choice lay between some such scheme as he had outlined and one of public hospitals under the Charities Board. The South Australian system as detailed by Dr. Hecker would come under the Charities Board in Victoria as it involved a Government subsidy.

DR. A. L. KENNY said that it would be unwise for the Council to forward any scheme of community hospitals until accurately informed of the position of such hospitals under the *Charities Act*.

The motion, as moved by Dr. Rosenberg was carried.

#### Cremation.

DR. J. NEWMAN MORRIS intimated that the Cremation Society of Victoria had asked the Council for a pronouncement on behalf of the medical profession on the subject of cremation. The Council considered that any expression of opinion might come appropriately from the Conference. He moved formally:

That the Conference suggests that the Council should favourably consider the proposal to adopt the practice of cremation with sufficient safeguards for the disposal of the dead.

The motion was seconded by DR. R. H. FETHERSTON, who said that the Council might well give the Cremation Society the support for their propaganda which they asked.

DR. WALTER SUMMONS supported the motion on hygienic and sanitary grounds.

The motion was opposed by DR. D. ROSENBERG on the ground that there was no medical evidence that the present system of burial led to increased incidence of disease.

DR. F. L. DAVIES, DR. A. P. DERHAM and DR. J. F. WILKINSON intimated that they could not support the motion.

The motion was lost.

#### Shortage of Midwives.

DR. G. E. COLE moved:

That in view of the general shortage of midwives and the difficulty of getting them to stay in the country, the Council be asked to make inquiries as to (a) the possibility of increasing the facilities for training and (b) whether it could be arranged with country hospitals for midwives to be attached for duty to their staffs during such time as their services are not required in the homes of the people.

DR. COLE said that the question of the shortage of trained midwifery nurses had been discussed at a recent meeting of the South-Western Division. Difficulties in this regard had been very acute in the neighbourhood of Hamilton and he would like to hear opinions regarding the possibility of putting the proposals embodied in the motion into effect.

DR. IVAN CONNOR seconded the motion.

DR. W. ERNEST JONES, speaking as a member of the Midwives' Board, expressed surprise that a deficiency of trained midwifery nurses should have been felt around Hamilton as it was in this centre that the first training school in the country had been established. Would the services of such a supernumerary nurse as proposed in the motion ever be available to the hospital to which she was attached? He felt warranted in saying that the Midwives' Board would have no objection to the plan outlined. What was required was a greater number of private hospitals of such a status that they could register trainees.

At a later stage of the Conference Dr. Ernest Jones supplied the information that since the commencement of the operation of the *Midwives Act* 3,663 midwives had been registered and 920 deregistered. He also forwarded a list of midwifery hospitals recognized by the Midwives' Board.

SIR JAMES BARRETT forwarded a letter to the second session of the Conference in which he stated that for the period July, 1924 to June, 1925 the number of midwives registered was 216. Of these one hundred and seventy were trained in general nursing and forty-six were midwives only. The number from other States included in the total was twenty-two. It was estimated that of the

generally trained nurses 20% intended to use their midwifery certificates. He regarded the position as very grave.

DR. J. H. DOWNING said that serious shortage of midwifery nurses had also been the experience at Kyneton. He asked what conditions a hospital was required to fulfil before it could be recognized as a training school.

DR. R. H. FETHERSTON reminded members that under Section 3 of the *Nurses Registration Act* (1923) it was competent for any medical practitioner to train a registered nurse in midwifery. The Act provided that where in any locality a hospital approved by the Midwives Board under the *Midwives Act* for the training of midwives was not available, any registered nurse might attend women in childbirth under the direction of a medical practitioner. Further upon the production to the Board of a certificate from a medical practitioner that she had under his direction attended not less than fifty women in childbirth and had in his presence conducted not less than twenty cases of childbirth personally and upon passing the examination prescribed under the *Midwives Act*, such nurse should be entitled to be registered as a midwife.

The motion submitted by Dr. Cole was carried.

#### Baby Welfare Centres.

On behalf of the Eastern Suburbs Division DR. WALTER SUMMONS submitted a motion:

That the regular visiting of baby welfare centres by doctors engaged in private practice be regarded as unethical.

Dr. Summons said that the motion was not directed against the legitimate officers of the organization, but was designed to prevent local troubles. If one or more doctors made a practice of visiting the baby welfare centres in their district, other practitioners would be deterred from advising their patients to take advantage of the centres.

DR. CONSTANCE ELLIS, in seconding the motion, said that those directing the baby health centres particularly desired that they should be conducted under medical supervision, but this should be supplied by medical officers appointed for the purpose and not in private practice.

The motion was discussed by Dr. W. S. Laurie, Dr. R. G. McPhee and Dr. R. H. Fetherston. Dr. Fetherston suggested that the motion might be modified so as to avoid the use of the term "unethical." Eventually the motion was amended as follows and adopted:

That the Council be asked to consider the relationship of practitioners to baby welfare centres.

The following resolution was adopted on the motion of DR. IVAN CONNOR (South-Western Country Division), seconded by Dr. R. H. FETHERSTON:

That reports be requested from the representatives of country "divisions" where baby health centres are in operation as to whether the results are commensurate with the expenditure.

#### Advertising Masseurs.

DR. HUGH MURRAY said that he wished to draw the attention of the Conference to the irregular methods adopted by certain people styling themselves masseurs. Generally speaking, reputable practitioners were members of the Australian Massage Association, an organization which had adopted ethical rules on the point of advertising which were quite as stringent as those of the British Medical Association. The Board appointed under the *Masseurs Registration Act* had experienced considerable difficulty in dealing with applicants for registration. They were obliged to regard vested interests and to recognize all *bona fide* practitioners of three years' standing. The applicant was required to furnish two medical certificates of competency. All sorts had applied for registration, neuropaths, osteopaths, chiropractors and clairvoyants and many of them on medical certificates. The Act required a two years' course of study and many reputable, skilled and scientific practitioners had qualified. It was not fair to such that quacks should be encouraged. He moved:

That the Council be requested to consider advertising by masseurs, with a view to asking members of the

Victorian Branch of the British Medical Association not to support or help in any way practitioners who offended against the advertising rules of the British Medical Association.

The motion was seconded by Dr. R. H. Fetherston and was carried.

#### Receiving House Patients.

DR. W. ERNEST JONES said that of late the medical officers of the Lunacy Department had been much embarrassed by the popularity of the Receiving House at Royal Park. It seemed to be the impression among medical men that all insane persons should go to the Receiving House in the first instance, but he wished to remind them that that institution was designed for patients affected by early and recoverable insanity. At present 40% of the beds in the Royal Park Receiving House were occupied by the incurably insane and the total number of beds there was only 220. This state of affairs was much to the detriment of the patients for whom the Receiving House was designed and impaired the efficiency of the work of the lunacy medical officers. The Department proposed to send out a leaflet on the question. He moved:

That the Conference ask the Council to consent to a leaflet prepared by the Lunacy Department being sent to every member of the Victorian Branch of the British Medical Association.

He would take care that practitioners who were not members of the Association, also received the leaflet.

DR. A. V. M. ANDERSON seconded the motion.

DR. F. L. DAVIES said that it was not always easy for the general practitioner to certify a patient as insane; he had to bear in mind the liability to action at law. Specialists could best decide whether the insanity was hopeless in a given case and could then transfer the patient to the appropriate institution.

The motion was carried.

#### SECOND SESSION, WEDNESDAY, NOVEMBER 18.

##### Lodge Practice.

The following proposals with reference to lodge practice were submitted by DR. WALTER SUMMONS on behalf of the Eastern Suburbs Division:

That each individual lodge member should have a prescription book.

The motion was seconded by Dr. S. Cochrane and carried.

That the prescription book should be stamped at the beginning of each quarter that the member is financial.

This motion also was seconded by Dr. S. Cochrane and was carried.

That there be a penalty (suggested 2s. 6d.) for the non-observance of the rule "that ordinary messages be left at the medical officer's consulting rooms before the hour of 9.30 a.m."

This motion was seconded by Dr. R. G. McPhee and was carried.

That the name of the institute doctor be removed from the front of the prescription books and that there be inserted a *résumé* of the lodge agreement in so far as it relates to the obligations of the individual member.

This motion was seconded by Dr. F. L. Davies and was carried.

In view of the adoption of the last resolution a motion from the North Melbourne Division that the attention of friendly societies be drawn to the out-of-date rules and regulations printed in their dispensary books, was allowed to lapse.

#### Divisional Meetings.

DR. J. NEWMAN MORRIS said that effect had been given to a resolution of the last Conference relating to meetings in country centres in the form of a divisional meeting at Warrnambool. Since that successful meeting in March last no country "division" had taken action, but a verbal wish had been expressed to the President that the next

such meeting should be held at Ballarat. Meetings in country centres would receive the support and encouragement of the Council. Arrangements would be in the hands of the local executive officers and the Council would do its best to urge visitors to attend and join in the discussions. It was hoped that papers and clinical material would be supplied by the local practitioners. Such meetings would advance the scientific work and organization of the Branch and would bring to country members a share in the benefits of the Branch which it was now difficult for them to obtain. He moved:

That the Conference is of opinion that it is desirable to hold general meetings of the Victorian Branch of the British Medical Association in country centres.

Dr. A. V. M. ANDERSON, in seconding the motion, amplified the remarks of Dr. Morris on the benefits ensuing on the holding of meetings in country centres.

Dr. L. S. LATHAM spoke in support of the motion, which was carried unanimously.

#### Debt Collecting Agency.

On behalf of the North Melbourne Division, Dr. JAMES BOOTH moved:

That steps be taken to inaugurate a debt collecting agency on behalf of members.

Dr. Booth said that no doubt all had experienced the difficulties occasioned by bad debts and dishonest collectors. The British Medical Association in England had recently discussed the question of establishing a collecting agency and although no definite action had been taken, it appeared that a large body of opinion favoured the proposal.

Dr. W. OSTERMEYER seconded the motion and suggested that it might be sufficient if the Association inquired into the *bona fides* of certain agencies and gave them their recommendation.

Dr. A. V. M. ANDERSON said that he could not approve any steps in this direction being taken by the Council.

Dr. J. NEWMAN MORRIS said that although the motion provided a legitimate subject for discussion by the Conference, the scheme it advocated was outside the objects of the British Medical Association as defined in the Memorandum of Association. It was competent for any body of medical men as individuals to institute an agency. He did not think that the motion would be very useful unless it was made to include some suggestion of ways and means.

Dr. B. T. ZWAR said that he hoped that the Conference would reject the motion. He expressed an objection to any extension of commercial activities on the part of the Association.

Dr. A. P. DERHAM also spoke in opposition to the motion. On a vote being taken, the motion was declared lost.

#### General Medical Information Bureau.

Dr. JAMES BOOTH on behalf of the North Melbourne Division moved:

That the Council be asked to consider the question of giving information to members on inquiry.

Dr. Booth indicated that his proposal was for the appointment of an intelligence officer whose functions would be similar to those of an official of this character connected with the office of the British Medical Association in London. He was not very explicit in defining the nature of the information to be supplied.

The motion was seconded by Dr. Wm. Ostermeyer and was carried.

#### Motor Registration Fees.

A motion by Dr. Booth, seconded by Dr. R. H. Fetherston, to the effect that representations should be made in order to obtain a reduction in the motor registration fees for medical men, was not adopted.

#### Industrial Medical Officers.

Dr. J. NEWMAN MORRIS reminded members that questions relative to the sphere of activity and conditions of con-

tract of industrial medical officers had been considered by the Conference of last year and that the scope of the deliberations had been indicated in the report which he had read at the outset of the present Conference.

The Organization Committee of the Council had recently met Dr. D. G. Robertson, the Industrial Medical Officer of the Commonwealth Department of Health, in conference. Dr. Robertson had drawn up at the request of the Committee a suitable form of agreement between medical officers and industrial firms or factories. He understood that Dr. Robertson was prepared to address the Conference on the subject of industrial medical officers.

Dr. D. G. ROBERTSON said that in the last few years there had been a great increase in medical services to industrial employees. The present development could be traced back to its beginnings in the provision made by various firms and factories for first aid and fire rescue work on behalf of their employees. The next step was the engagement of trained nurses and later medical men were engaged to supervise the work of the nurses. In Melbourne there were six doctors engaged in industrial medical work. Their duties embraced the physical examination of applicants for employment, the treatment of accidents and sickness arising during working hours and in some instances periodical examination of the employees. Further, all matters relating to the hygiene and sanitation of the plant were placed under the control of the medical officer.

A sound medical and surgical knowledge was indispensable in the industrial medical officer. He had a wide scope for the practice of the principles of preventive medicine. In addition to such agents as lead, arsenic and silica which gave rise to definite occupational diseases, there were many other factors in industry adversely affecting health; intense heat, glare and defective lighting might be mentioned. The medical officer must be conversant with the methods and principles of effective ventilation, how to study industrial fatigue and to insure that no man was given work of which he was not physically capable.

There were in Australia about forty medical men who were undertaking this work; these numbers justified some post-graduate training. The Council might consider the provision of facilities for such training.

#### Sunday Work.

Dr. GERALD WEIGALL moved:

That this Conference, being anxious to reduce Sunday work for its members to a minimum, suggest that all fees for Sunday work except in special or urgent cases be increased by 50% and that a notification to this effect be printed for exhibition in the waiting rooms of all members' surgeries.

The motion was seconded by Dr. R. G. MCPHEE.

Drs. Booth and Ostermeyer spoke in support of the motion. Drs. Rosenberg, Oochrane and B. Milne Sutherland urged that the regulation of Sunday work was a matter for individual practitioners.

The motion was not carried.

## Correspondence.

#### GENERAL PARESIS.

SIR: In your issue of January 2, 1926, Dr. C. Henry invites correspondence concerning his interesting case which he believes to be one of protracted general paresis. His case presents some signs and symptoms typical of paresis, but there are others whose absence it is difficult to explain away.

The essential lesion in general paresis consists in a steady eating away of the cerebral cortex, that is a progressive decortication of the brain from the outer tangential association layer inwards. This in time becomes



obvious to the unaided eye and is best seen in the frontal and parietal regions; yet in Dr. Henry's case, lasting eleven years with remission, "the brain was large and there was no atrophy of the cortex," exactly the opposite to what we should expect in paresis. The chronic leptomeningitis, sanding of the fourth ventricle, increased amount of cells and albumin which were present in the cerebro-spinal fluid, are all evidence of syphilitic disease of the central nervous system and of the effects of the circulating toxin, but not necessarily in my opinion of general paralysis of the insane, as stated by Dr. Henry. No mention is made of the Lange colloidal gold quantitative test for globulin having been applied. Had it been possible to do this, it should have aided the diagnosis.

General paresis and tabo-paresis are not the only varieties of syphilitic psychosis, a syphilitic hallucinosis occurs in younger adults with hallucinations and paranoid delusions prominent and may suggest general paralysis. Speech defects resembling those of paresis may occur in other syphilitic as well as in non-leucic psychoses.

Yours, etc.,

E. E. PITTMAN.

183, Macquarie Street, Sydney.  
January 5, 1926.

## Births, Marriages and Deaths.

THE charge for inserting advertisements of Births, Marriages and Deaths is 5s., which sum should be forwarded in money orders or stamps with the notice, not later than the first post on Monday, in order to insure insertion in the current issue.

### DEATH.

SPROTT.—On February 13, 1926, at Hobart, Eliza, the beloved wife of Gregory Sprott, M.D.

## Books Received.

CHRONIC INFECTION OF THE JAWS: A SHORT RADIOLOGICAL AND CLINICAL STUDY, by Stanley Colyer, M.D. (London), M.R.C.P., D.M.R.E., with a Synopsis of a Series of Fifty Illustrative Cases by Reginald Curnock, L.R.C.P., M.R.C.S., L.D.S.: 1926. London: H. K. Lewis and Company, Limited. Demy 8vo., pp. 86, with illustrations. Price: 10s. 6d. net.

## Medical Appointments.

Dr. Ramsay Beavis (B.M.A.) has been appointed Honorary Assistant Ear, Nose and Throat Surgeon, Royal Alexandra Hospital for Children, Camperdown.

Dr. George Martin (B.M.A.) has been appointed Quarantine Officer, Geraldton, Western Australia.

## Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants locum tenentes sought, etc., see "Advertiser," page xxii.

AUSTIN HOSPITAL FOR INCURABLES, HEIDELBERG, VICTORIA: Honorary Ear, Nose and Throat Specialist.

LAUNCESTON PUBLIC HOSPITAL: Junior Medical Officer.

PORT DOUGLAS DISTRICT HOSPITAL, NORTH QUEENSLAND: Medical Officer.

ROYAL NORTH SHORE HOSPITAL OF SYDNEY: Honorary Junior Assistant Gynaecological Surgeon.

ROYAL NORTH SHORE HOSPITAL OF SYDNEY, OPHTHALMIC DEPARTMENT: Honorary Clinical Assistant.

WESTERN AUSTRALIAN PUBLIC SERVICE: Medical Officer of Schools.

## Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C. 1.

BRANCH.	APPOINTMENTS.
	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	Brisbane United Friendly Society Institute. Stannary Hills Hospital.
QUEENSLAND: Honorary Secretary B.M.A. Building, Adelaide Street, Brisbane.	Contract Practice Appointments at Ceduna, Wudinna (Central Eyre's Peninsula), Murat Bay and other West Coast of South Australia Districts.
SOUTH AUSTRALIAN: Honorary Secretary, 12, North Terrace, Adelaide.	All Contract Practice Appointments in Western Australia.
WESTERN AUSTRALIAN: Honorary Secretary, Saint George's, Terrace, Perth.	
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

## Diary for the Month.

- MAR. 2.—Tasmanian Branch, B.M.A.: Council.  
MAR. 2.—New South Wales Branch, B.M.A.: Ethics Committee.  
MAR. 3.—Victorian Branch, B.M.A.: Branch.  
MAR. 3.—Western Australian Branch, B.M.A.: Council.  
MAR. 4.—South Australian Branch, B.M.A.: Council.  
MAR. 5.—Queensland Branch, B.M.A.: Branch.  
MAR. 9.—Tasmanian Branch, B.M.A.: Branch.  
MAR. 9.—New South Wales Branch, B.M.A.: Executive and Finance Committee.  
MAR. 11.—Victorian Branch, B.M.A.: Council.  
MAR. 12.—Queensland Branch, B.M.A.: Council.  
MAR. 15.—New South Wales Branch, B.M.A.: Organization and Science Committee.  
MAR. 16.—Tasmanian Branch, B.M.A.: Council.  
MAR. 16.—New South Wales Branch, B.M.A.: Medical Politics Committee.  
MAR. 17.—Western Australian Branch, B.M.A.: Branch.  
MAR. 17.—Section of Obstetrics and Gynaecology, New South Wales.  
MAR. 23.—New South Wales Branch, B.M.A.: Council (Quarterly).

## Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, Sydney. (Telephones: MW 2651-2.)  
SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and booksellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £2 for Australia and £2 5s. abroad per annum payable in advance.